# Ooredoo Algeria: Powering Algeria's Digital Future through Innovation, Inclusion, and Impact

Roni Tohme, CEO, Ooredoo Algeria

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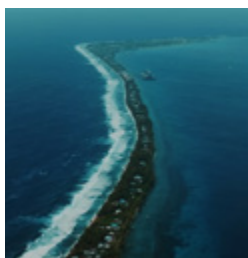## China Debuts World's First Smart Emergency Rescue Robots

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**Roni Tohme, CEO, Ooredoo Algeria**

# Ooredoo Algeria: Powering Algeria's Digital Future through Innovation, Inclusion, and Impact

In an exclusive interview with Telecom Review Africa, Roni Tohme, CEO of Ooredoo Algeria, delved into the milestones that have shaped the company's remarkable journey from its early days as Nedjma to becoming a technology-driven telecom leader under the Ooredoo brand.

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With a focus on innovation, customer trust, and national development, the CEO elaborated on how Ooredoo is leveraging emerging technologies like artificial intelligence (AI), Internet of Things (IoT), and cloud computing to bridge the digital divide in rural Algeria, and is investing in talent to build a sustainable and inclusive digital future.

**Ooredoo Algeria has been a major player in the telecom sector for years. Looking back, what would you say is the most defining milestone in the company's journey so far?**

Ooredoo Algeria has indeed been a major player in the Algerian telecom sector, and when we reflect on our journey, it's clear that our story is one of vision, resilience, and continuous innovation. Our beginnings under the name Nedjma marked a bold entry into a highly competitive market. At that time, the landscape was already established, yet Nedjma managed to quickly distinguish itself through a pioneering spirit, bringing innovation and dynamism that deeply resonated with Algerian customers. We were among the first to focus on quality of service (QoS), customer experience (CX), technological leadership, and mobile data even in those early years.

The transition to Ooredoo in 2013, as part of a global rebranding and strategic alignment with an international group, was undoubtedly a defining milestone. It represented much more than a change of identity; it signified our commitment to global standards of excellence and opened the door to greater possibilities for our customers and the nation.

However, if I were to highlight the most defining milestone in our journey, I would point to the transformative impact of the technologies we introduced. From being among the first to launch 3G in Algeria to leading the deployment of 4G across the country, we didn't just follow global trends; we brought them to the Algerian people ahead of time. These advancements empowered individuals, businesses, and institutions, and fundamentally changed how people connect, work, and communicate.

That said, our proudest achievement, or the one that truly defines our success, is not limited to technological leadership; it is the trust and loyalty of our customers. Their continued confidence in us is what drives our innovation, inspires our teams, and motivates us to constantly raise the bar. Every milestone we've reached has been built on that foundation of trust, and every future success will be in service of the people who believe in Ooredoo.

In essence, while technology and innovation have shaped our journey, it is our relationship with our customers that defines it.

the Internet of Things not as distant concepts, but as critical levers for enhancing operational efficiency and elevating the customer experience.

Artificial intelligence is already being deployed across several layers of our operations. From smart customer support systems—such as AI-powered chatbots and virtual assistants—to predictive analytics that optimize network performance and anticipate customer needs, AI enables us to be faster, more efficient, and more proactive. It also empowers us to offer a more personalized and seamless experience, while maintaining the reliability and excellence our customers expect.

Cloud computing is another pillar of our transformation. By adopting robust and scalable cloud solutions, we've been able to streamline internal

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**2024: A year of strong financial performance for Ooredoo Algérie**

In 2024, Ooredoo Algérie recorded strong financial performance, reflecting significant growth across key indicators. The company generated revenues of 104.6 billion Algerian dinars, marking a 13.8% increase compared to 91.9 billion dinars in 2023.

Earnings before interest, taxes, depreciation, amortization, and provisions (EBITDA) also demonstrated a robust upward trend, reaching 44.2 billion Algerian dinars in 2024—an increase of 19.2% over the 37 billion dinars reported in the previous year.

As part of its ongoing commitment to enhancing service quality and network accessibility, Ooredoo Algérie invested 16.7 billion Algerian dinars in 2024 to expand and strengthen its national coverage network.

The company's customer base experienced steady growth, reaching 14.7 million by the end of December 2024, up from 13.4 million in 2023, representing an increase of 10%.

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**How is Ooredoo leveraging emerging technologies like AI, IoT, or cloud computing to enhance operational efficiency and customer experience?**

At Ooredoo Algeria, leveraging emerging technologies is central to our mission of driving digital transformation and delivering exceptional value to our customers.

We view innovations such as artificial intelligence, cloud computing, and

processes, accelerate service delivery, and provide secure, flexible digital infrastructure for businesses. This agility allows us to remain competitive, while supporting our partners and clients on their digital journeys.

As for the Internet of Things, while this technology is not yet widely adopted in Algeria, we see immense potential in it. At Ooredoo, we are not only ready; we are eager to contribute

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> At Ooredoo Algérie, leveraging emerging technologies is central to our mission of driving digital transformation and delivering exceptional value to our customers

to its development and widespread implementation across the country. We are preparing the infrastructure and partnerships necessary to support future IoT ecosystems in sectors such as smart cities, industry, agriculture, and healthcare. When the time comes, we intend to play a leading role in enabling these innovations to flourish in Algeria.

Ultimately, our commitment to emerging technologies is rooted in a clear ambition: to empower individuals, support businesses, and help shape a smarter, more connected future for Algeria. Innovation is the means; however, the customer remains the reason.

**In terms of rural and underserved areas, what concrete steps is Ooredoo taking to bridge the digital divide and expand connectivity across Algeria?**
Connectivity is not a luxury; it is a fundamental right and a critical driver of social and economic development.

Bridging the digital divide is, therefore, not simply a goal for us; it is a responsibility we proudly embrace.

One of the most concrete and impactful steps we've taken in this regard has been our active participation in the Universal Telecommunication Service project, an initiative led by the Algerian government to extend quality mobile coverage to remote and underserved areas across the country. As part of this ambitious national program, Ooredoo is aiming to deploy

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more than 1,200 sites across Algeria's rural zones, bringing reliable voice and data services to regions that were previously disconnected or poorly served.

This effort is not just about infrastructure; it's about inclusion. We understand that, in today's world, access to digital services is essential for education, healthcare, entrepreneurship, and access to public services. By expanding our network in these regions, we are helping to open new horizons for millions of Algerians, enabling them to participate more fully in the digital economy.

Looking ahead, we remain fully committed to deepening our efforts. With Algeria's vast geography and rich potential, we view rural connectivity as a long-term strategic priority. We are continuously exploring innovative solutions, such as the future 5G launch.

**Talent development is crucial in a rapidly evolving sector. How does Ooredoo attract, retain, and upskill local talent to stay ahead in the industry?**

Talent development is indeed a cornerstone of our strategy at Ooredoo Algeria, especially in a sector as dynamic and evolutionary as telecommunications. We firmly believe that investing in local talent is not only vital to our operational success; it is essential to building a sustainable and innovative future for the industry as a whole.

To attract and retain top talent, we strive to offer a professional environment that is inclusive, motivating, and forward-looking. Our people are our greatest asset, and we are deeply committed to creating a culture where every individual feels valued, empowered, and inspired to grow.

We offer competitive benefits and clear, merit-based career development pathways that encourage our employees to take ownership of their professional journey. Beyond that, we invest heavily in continuous learning, offering structured programs that

range from technical upskilling to leadership and managerial development. These programs are designed to equip our teams with the knowledge and agility needed to meet the ever-changing demands of the telecom sector.

At Ooredoo, we also foster a spirit of innovation and collaboration, encouraging our employees to contribute ideas, embrace challenges, and lead change. By nurturing local talent through targeted training, mentorship, and exposure to international best practices, we ensure that our workforce remains adaptive, capable, and ready for the future.

**What role do strategic alliances— local or international—play in your growth strategy, and how have these collaborations helped Ooredoo innovate or scale services?**
Strategic alliances, both local and international, are at the very heart of Ooredoo's growth strategy. We take great pride in cultivating

> **Our strategy is centered on empowering local talent, enabling digital entrepreneurship, and making advanced technologies accessible to all Algerians, regardless of their region or background**

strong, forward-looking partnerships that enable us to consistently deliver high-quality services to our customers. These collaborations are not merely transactional; they are transformative.

Our local alliances allow us to stay deeply rooted in the communities we serve, ensuring that our solutions are relevant, accessible, and impactful. At the same time, our international partnerships bring global expertise, technological innovation, and fresh perspectives that enrich our

capabilities and inspire us to raise the bar even higher.

Together, these alliances act as a powerful catalyst, propelling Ooredoo forward, pushing us to innovate, to scale with agility, and to continuously exceed expectations. We are proud of the journey we are on with our partners, and we remain committed to building bridges that lead to shared success and meaningful impact.

**How does Ooredoo balance profitability with its responsibility**

**to deliver affordable and accessible telecom services to all Algerians?**
I believe that commercial success and social responsibility are not opposing goals, they are complementary pillars of sustainable growth. Balancing profitability with providing affordable and accessible telecom services to all Algerians is not just a strategic choice; it is a core part of our identity.

We are deeply committed to bridging the digital divide and ensuring that connectivity is not a privilege for the few, but a right for all. Through

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targeted investments, innovative pricing models, and inclusive digital solutions, we strive to make our services accessible to every segment of society—urban and rural, young and old, connected and underserved.

At the same time, we maintain a rigorous focus on operational efficiency, innovation, and strategic growth, which enables us to sustain our profitability while fulfilling our broader responsibility to the nation. It is this dual commitment to purpose and performance that defines Ooredoo's journey in Algeria. We are proud to contribute to the country's digital future, while ensuring that no one is left behind.

**How does Ooredoo integrate CSR initiatives into its customer engagement strategy, and how do these efforts impact public trust and brand loyalty?**

Corporate social responsibility (CSR) is not a peripheral initiative; it is a fundamental expression of who we are and how we engage with the communities we serve. Our CSR strategy is a genuine, long-term commitment to social impact, and it plays an integral role in shaping our customer engagement approach.

By aligning our CSR efforts with the real needs of Algerian society, across all social classes, we ensure that our brand is not only heard, but also felt. Whether it be through initiatives addressing education, healthcare, or the environment, we actively work to create meaningful, lasting change in people's lives. These actions bring us closer to our communities, build authentic relationships, and reflect the deep investment Ooredoo makes beyond business.

By enhancing public trust, building a stronger emotional connection with our customers, and fostering brand loyalty that is rooted in shared values and mutual respect, the outcome is powerful. When people see that we care not only about profits but also about people, they respond, not just as consumers, but as partners in progress. This is the true strength of Ooredoo's CSR-driven engagement strategy.

**Looking ahead, what is your long-term vision for Ooredoo Algeria, and how do you see the company shaping the future of Algeria's digital economy?**

My long-term vision for Ooredoo Algeria is to position the company as a central force in the digital renaissance of Algeria, one that not only delivers cutting-edge telecommunications services, but also helps shape the very foundation of the country's digital economy.

What makes this journey even more promising is the alignment between Ooredoo's ambition and Algeria's own vision for digitalization. The country is clearly embracing the digital future with strong governmental support, forward-looking policies, and a growing national appetite for innovation and tech-driven progress. This environment is a tremendous asset. It gives us the momentum, the infrastructure, and the inspiration to dream bigger, move faster, and build smarter.

In this context, Ooredoo is not just adapting to the future; we are helping to build it. Our strategy is centered on empowering local talent, enabling digital entrepreneurship, and making advanced technologies accessible to all Algerians, regardless of their region or background. We are investing in AI, IoT, cloud solutions, and digital platforms that will unlock new opportunities for both individuals and businesses.

My vision is clear: to see Ooredoo become not only a telecom leader, but a catalyst for digital inclusion, a driver of economic transformation, and a proud partner in Algeria's journey toward a more connected, dynamic, and competitive future. With the right vision, the right people, and the right environment, I believe we are just getting started. **TR**

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**Dorsaf Bejaoui, CEO, Sofrecom Tunisie**

# The Transformative Impact of Generative AI on the Technology Sector

The technology sector has always evolved through disruption. From on-premises servers to cloud-native platforms, change has been the only constant. Today, generative artificial intelligence (GenAI) marks a profound inflection point-one that is reshaping the fabric of IT professions. As someone who has spent years leading digital transformation initiatives and guiding tech talent through paradigm shifts, I see GenAI not only as disruptive but a real breakthrough in the technology ecosystem.

## Automation and the Transformation of IT Roles

By 2030, analysts estimate that up to 30% of work hours globally could be automated by AI technologies. This shift is no longer speculative; we are already witnessing its effects. Tools like GitHub Copilot, OpenAI Codex, and Google's Gemini are automating significant parts of the software development lifecycle, from code generation and bug fixing to unit testing and documentation. In parallel, AI agents are evolving beyond assistants into autonomous decision-makers capable of managing Tier-1 IT support or running regression testing suites without human intervention.

## Redefining Careers: Towards New Opportunities

This new reality is prompting IT leaders to rethink workforce planning. Routine IT roles, particularly entry-level software engineering, support, and quality assurance (QA) positions, are under pressure. Traditional career ladders are being compressed. But rather than retreating in fear, we must look deeper into how GenAI can augment human potential, unlock new capabilities, and create previously unimagined roles.

## Skills for Tomorrow: Emphasizing AI Literacy

There is no denying that GenAI is displacing certain tasks. A junior developer, for example, once spent weeks writing repetitive code and documentation. Today, a few lines of prompts can achieve the same in hours. We see companies redesigning their IT value chains, reducing reliance on human labor for low-value tasks and delegating them to intelligent agents. But this trend is not about "less people"; it's about more productivity, more creativity, and more strategic focus.

## Human-AI Collaboration: A New Work Model

Tech leaders agree. Bill Gates

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acknowledges that AI will make specialized knowledge, once reserved for "doctors, lawyers, teachers…", broadly accessible and it will reduce costs across sectors. However, he also notes that this disruption "is completely new territory." Satya Nadella, CEO of Microsoft, sees AI as a shift in knowledge work. "The grunt work will go away," he said, "and humans will focus on higher-order decision-making." Sundar Pichai, CEO of Google, adds that coding will become more accessible, even for non-experts. He foresees a democratization of software creation, where "the bar for programming is lowered." Elon Musk, more provocatively, suggests that AI will ultimately render most jobs optional, with universal basic income as a potential societal response.

### The Commitment of Tech Leaders: Anticipate and Act

While their tones differ, their messages converge: automation is inevitable but the human role is evolving, not vanishing. Software engineering, the backbone of the IT ecosystem, is undergoing its own metamorphosis. The traditional role of "code producer" is giving way to AI orchestrators—engineers who design, supervise, and refine intelligent systems. Future developers won't write every line of code themselves. Instead, they will collaborate with GenAI tools, shaping prompts, evaluating outputs, and ensuring quality and compliance.

### Towards an Uncertain Future: Reflections on Value in Work

Moreover, new responsibilities are emerging. Engineers must now understand how AI models are trained, how to fine-tune them, how to integrate them securely, and how to evaluate them for bias or hallucination. This calls for an expanded skillset. AI literacy, cloud infrastructure, data ethics, and governance are becoming core competencies.

These shifts will create new job categories and new opportunities. The demand for these roles will grow:

- AI/machine learning (ML) engineers to build and refine models.

- Prompt engineers who master the art of instructing large language models (LLMs).

- AI product managers who translate business needs into AI capabilities.

- Ethics and compliance officers to govern responsible AI usage.

- Data curators and annotators to ensure model accuracy.

- AI experience designers who align user journeys with AI-driven interactions.

In parallel, cybersecurity, cloud architecture, and platform engineering roles are gaining prominence as AI infrastructure becomes critical. These are not fringe cases; they are the foundation of the next IT era.

### What Should Tech Professionals Do Now?

The imperative is clear: adapt, upskill, and lead. GenAI is not a passing trend; it is a foundational shift. For tech professionals and organizations alike, the focus must move toward the following:

- Continuous learning as AI evolves fast. Become a specialist rather than a generalist.

- Hiring should prioritize skills and capabilities, not just credentials.

- Skills development should combine technical acumen with business insight and ethical awareness will define tomorrow's leaders.

- Rely on Human and AI collaboration. Success will lie in designing workflows where AI handles repetitive tasks and humans focus on judgment, creativity, and empathy.

As McKinsey emphasizes, companies must reimagine their talent strategies. The most agile organizations are already investing in AI literacy for all, from engineers to executives.

As a CEO of a tech company, I don't just watch these shifts; I anticipate and act on them. Technology is a powerful lever, but it is people and purpose that determine its impact. Our responsibility is to guide our teams through this evolution, not only by reskilling but by instilling a growth mindset.

Ultimately, the net effect on IT jobs remains uncertain but GenAI will amplify our strengths and expose our weaknesses. It will force us to think beyond efficiency toward meaning: Why do we build? Whom do we serve? These are human questions, and they will remain human answers, even in an AI-powered world. ▥

> Our responsibility is to guide our teams through this evolution, not only by reskilling but by instilling a growth mindset

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# Cybersecurity, Digital Mindfulness, and AI:
## Insights from Anna Collard



**Anna Collard, SVP of Content Strategy & Evangelist, KnowBe4 Africa**

In an exclusive interview, Anna Collard, SVP at KnowBe4 Africa, shares her expertise on cybersecurity, AI, and the MiDO cyber academy's work with underprivileged youth, while discussing strategies to enhance cybersecurity awareness and ethics in South Africa.

**How does the Zero Trust mindset enhance cybersecurity, and what role does digital mindfulness play in protecting individuals and organizations online?**

In cybersecurity, the Zero Trust framework that has been around for several years assumes that no entity—user, system, or network—should be trusted by default, until verified. However, technology alone cannot address all cybersecurity challenges; human behavior remains a critical risk factor. This is where digital mindfulness and the Zero Trust mindset intersect and complement each other.

My research on social engineering identifies 33 human susceptibility factors that cybercriminals exploit, and mindfulness-based interventions have been shown to positively impact 23 of them. By improving cognitive resilience, mindfulness helps individuals recognize manipulation tactics, resist impulsive reactions, and engage in critical thinking.

Applying the Zero Trust mindset to human behavior means cultivating skepticism and vigilance in all digital interactions. Digital mindfulness encourages these habits by improving cognitive performance, emotional regulation, and meta-awareness, which are key defenses against urgency-based scams, authority pressure, and phishing attempts. Organizations that integrate digital mindfulness into security awareness programs empower employees to recognize when critical thinking is needed, strengthening security culture and complementing Zero Trust strategies.

**What challenges would a national cybersecurity helpline address in South Africa, and how could it improve public safety and awareness of cyber threats?**

We are actively fundraising to launch a national cybersecurity helpline in South Africa, which could be a game-changer in improving public safety and awareness of cyber threats. The proposed SA Cyber Helpline aims to provide essential, first-line support for South Africans impacted by cybercrime, addressing needs for victim assistance and providing valuable, hands-on experience for MiDO Academy cybersecurity students.

Driven out of the MiDO Academy and supported by the UK CyberHelpline and our partner network, this multi-stakeholder initiative combines cybersecurity expertise, victim support tools, and localized training. It also provides much needed work experience and training for our cybersecurity students.

Cybercrime disproportionately affects individuals and small businesses acking the expertise to navigate complex digital threats. Many victims of financial fraud, sextortion scams, or phishing attacks do not know where to turn for help, leading to underreporting and an ongoing cycle of exploitation. The need for this support is urgent. According to SABRIC South Africa saw over 52,000 cases of digital banking fraud, with losses exceeding R1 billion in 2023 alone. Additionally, 92,959 CyberTipline complaints of suspected child sexual abuse material (CSAM) were reported from South Africa to US-based National Center of Missing and Exploited Children, and the FBI Internet Crime Center IC3 received 1,290 cybercrime reports from South Africa in 2023, revealing the scope of cyber victimization. Since most cases go unreported, the real figure is much larger.

The SA Cyber Helpline could provide:
- Immediate guidance for victims of cybercrime, reducing panic and empowering them with next steps.
- Public awareness campaigns to increase cyber resilience across different demographics.
- Incident reporting mechanisms to improve national intelligence on cyber threats and help law enforcement take targeted action.

Please get in touch if you can help support this initiative.

**What are the key risks and benefits of integrating AI in cybersecurity, and how should organizations navigate these when crafting their security strategies?**

Artificial Intelligence (AI) presents both powerful opportunities and emerging risks in cybersecurity. On the one hand, AI-powered security tools enhance threat detection, automate response mechanisms, and analyze massive datasets faster than human analysts. AI is particularly valuable for detecting anomalies, predicting cyberattacks, and bolstering defensive capabilities through automated threat intelligence.

On the other hand, cybercriminals and state-sponsored actors are weaponizing AI to create more sophisticated threats—such as deepfakes, automated phishing, AI-generated malware, and cognitive manipulation attacks. This raises the need for organizations to:

- **Adopt AI responsibly,** ensuring transparency and bias mitigation in AI-driven security solutions, as well as ensure AI implementation are done securely, and with sound security principles in mind, such as least privilege and restrictions around what data it has access to (i.e. think data protection, privacy) and to not inadvertently expand the attack surface by introducing new vulnerabilities
- Continuously **test their own AI models** against adversarial attacks to ensure resilience.
- **Invest in human-AI collaboration**, using AI to augment cybersecurity teams rather than replace human decision-making.
- **Enhance threat intelligence sharing,** as AI-driven cyber threats require a collective defense approach across industries.
- **Train employees on AI-driven threats**, ensuring that security awareness keeps pace with emerging attack vectors and that users understand what to do and what not to do when using their AI assistants and chatbots.
- **Utilize AI agents:** I've written quite a lot recently about AI agents and the benefits and risks they pose.

A balanced approach—leveraging AI's defensive capabilities while remaining vigilant against its misuse—is key to crafting resilient security strategies.

Organizations need to guard against their greatest enemy, their own complacency, while at the same time considering AI-driven security solutions thoughtfully and deliberately. Rather than rushing to adopt the latest AI security tool, decision makers should carefully evaluate AI-powered defences to ensure they match the sophistication of emerging AI threats. Hastily deploying AI without strategic risk assessment could introduce new vulnerabilities, making a mindful, measured approach essential in securing the future of cybersecurity.

### Can you share insights into the MiDO cyber academy's initiatives for empowering underprivileged youth in South Africa?

The MiDO Cyber Academy bridges the cybersecurity skills gap while creating pathways out of poverty for underprivileged youth in South Africa. Through a structured training program, we provide students with:

- **Industry-relevant cybersecurity skills** that align with global certification requirements and employer needs.
- **Professional development,** including mentorship and exposure to real-world cybersecurity challenges.
- **Work experience opportunities,** ensuring graduates are job-ready and connected to potential employers, internship or learnership opportunities
- **Community building,** promting peer networks that support long-term career growth and knowledge sharing. The MiDO Tribe is the network of previous MiDO alumni and new students.

The initiative addresses two critical issues: youth unemployment and the cybersecurity talent shortage. By equipping young people with digital skills, we not only improve their economic prospects but also strengthen South Africa's overall cybersecurity resilience. Partnerships with private sector organizations, educational institutions, and government bodies help scale these efforts and ensure sustainable impact.

### As a cyber-psychologist, how do human factors shape technology use and security practices? What strategies would you suggest to cultivate a culture of security awareness and ethical technology use?

As a cyber-psychologist, I have seen firsthand how technology adoption and security behaviors are deeply influenced by human factors. People often make security decisions based on convenience, cognitive biases, and emotional triggers rather than rational assessment. Social engineering attacks exploit these vulnerabilities by leveraging fear, urgency, or trust to manipulate individuals into compromising security.

To cultivate a culture of security awareness and ethical technology use, organizations should:

- **Replace fear-based awareness campaign**s and focus on practical, actionable security behaviors.
- **Integrate behavioral science into security training,** using gamification, habit formation, and real-world scenarios to reinforce learning.
- **Encourage a security-conscious workplace culture,** where reporting suspicious activity is normalized rather than feared.
- **Promote digital mindfulness practices,** helping individuals develop cognitive resilience against manipulative tactics used by cybercriminals. This also includes creating healthier digital habits that will improve not only cybersecurity but overall wellbeing.

KnowBe4's holistic human risk management strategy goes beyond traditional security training to address the full spectrum of human risk factors. By leveraging security culture assessments, simulated phishing, behavioral analytics, and continuous reinforcement training, such as in the moment nudges and prompt features, organizations can create a holistic defense against cyber threats targeting the human layer.

Ultimately, cybersecurity is a human challenge as much as a technical one. Addressing security through the lens of psychology, behavior, and education is key to building a digitally resilient society. **TR**

# Ethio telecom Expands 5G and Opens Regional Office in Bale Robe



In a landmark move reinforcing its leadership in Ethiopia's digital transformation journey, Ethio telecom announced the launch of 5G services in Bale Robe and Assela, while also inaugurating its new 'South South-East' regional office in Bale Robe.

These twin milestones—cutting-edge connectivity and deeper regional presence—highlight the company's commitment to expanding access to digital services and modernizing service delivery across the nation.

Ethio telecom's ongoing rollout of 5G has now reached 16 cities, with Bale Robe and Assela becoming the latest additions. This next-generation wireless network delivers speeds of up to 10 Gbps, supports 1 million devices per square kilometer, and features ultra-low latency, transforming lives, industries, and innovation capacity. In parallel, 114 towns across the South East and South South-East regions now enjoy upgraded 4G LTE-Advanced services.

"This expansion is not just about faster internet; it's about unleashing new economic and societal opportunities," said Frehiwot Tamiru, CEO of Ethio telecom. "With the opening of our new regional office in Bale Robe and the extension of 5G, we are creating a future-ready infrastructure that is both inclusive and innovative."

**A New Regional Hub Empowering Local Growth**

The South South-East Region office, strategically based in Bale Robe, will now serve three administrative zones—Bale, East Bale, and part of West Arsi—covering 29 woredas, 38 towns, and 471 rural kebeles. This restructuring, driven by data and demand, enhances operational efficiency and customer proximity.

The region is rich in economic assets: from major agro-industrial parks and flower farms to tourism destinations and livestock markets. The new office and advanced telecom infrastructure aim to accelerate local economic development, foster digital entrepreneurship, and deepen rural-urban integration through connectivity.

# Telecom Egypt Appoints Lobna Helal as First Female Chair
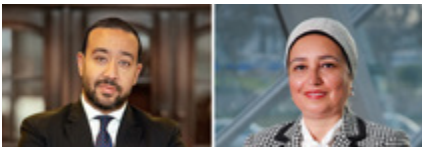


Telecom Egypt has announced a historic leadership change, appointing Lobna Helal as Chair of the Board, marking the first time a woman has held this position in the company's history.

Helal succeeds Dr. Magued Osman, who stepped down after nine years of service as a Chair since 2016. Her appointment marks a significant milestone for gender diversity in corporate leadership within Egypt's telecom industry.

Having been an independent member of Telecom Egypt's Board since March 2019, Helal brings over three decades of experience in banking and finance to her new role. She previously served as the Deputy Governor of the Central Bank of Egypt (CBE) for Monetary Stability Policies, with substantial contributions including monetary policy design, reserve management, and banking sector restructuring. She also holds Board positions in Egypt's Sovereign Wealth Fund and the National Bank of Egypt (London).

Helal highlighted, "I would like to extend my sincere gratitude to Telecom Egypt's Board of Directors for entrusting me with this role. It is a profound honor to serve as the first woman to chair the Board, and I embrace this responsibility with a deep commitment to upholding the highest standards of corporate governance, strategic oversight, and sustainable growth.

"With a career dedicated to financial stability, banking reform, and economic development, I look forward to leveraging my experience to further strengthen Telecom Egypt's position as a leading telecom provider. By drawing on my expertise in regulatory frameworks, risk management, and financial restructuring, I will work closely with my esteemed fellow Board members to drive innovation, optimize operational efficiency, and create long-term value for our stakeholders."

**Mohamed Nasr's Reappointment**
Alongside Helal's appointment, Mohamed Nasr has been reappointed as Managing Director and CEO for a second term. Nasr's leadership continuity is poised to accelerate Telecom Egypt's strategic initiatives, including advancing digital transformation and positioning the company as a regional data hub.

Emphasizing the Board's continued trust in his reappointment, Nasr noted, "Over the past few years, Telecom Egypt has made significant strides, and I remain committed to furthering our progress by delivering sustainable growth, driving innovation, and ensuring the highest standards of service for our customers."

Nasr added, "I look forward to working closely with the Board under the visionary leadership of Lobna Helal as the new Chair. Together, we will strive to achieve new milestones, solidify Telecom Egypt's position as a regional data hub, and lead the way in advancing digital transformation across Egypt and the region."

Nasr's proven expertise in the telecommunications sector is poised to complement Helal's transformative vision, guiding the company towards growth and innovation.

# Maroc Telecom and Inwi Forge Strategic Partnership to Accelerate Fiber and 5G Deployment



Maroc Telecom (IAM) and Inwi (Wana Corporate) have signed a landmark agreement to accelerate the deployment of fibre optic and 5G technologies across Morocco. The agreement, approved by the supervisory board of Maroc Telecom and the board of directors of Inwi, marks a major step forward in Morocco's digital transformation and its national goals for high-speed connectivity.under this unprecedented agreement, the two telecom operators will consolidate their passive telecom infrastructures by creating two joint ventures, each equally owned (50/50):

- "FiberCo" will focus on accelerating fiber optic deployment, enabling high-speed internet access for subscribers across Morocco. The aim is to reach 1 million connections in two years and 3 million within five years.

- "TowerCo" will speed up the rollout of the 5G network across the Kingdom, enhancing the speed, capacity, and quality of connectivity. This venture will invest in building 2,000 new towers within three years and 6,000 towers within ten years.

The first phase of the project is valued at MAD 4.4 billion over three years. The infrastructure will be accessible to any operator holding a license for passive infrastructure sharing, in full compliance with current regulations.

The implementation of this partnership is subject to approval from the National Telecommunications Regulatory Agency (ANRT) for the concentration control process.

This agreement also reflects the mutual intention to move beyond a past dispute related to infrastructure sharing, which led to a judicial procedure where Maroc Telecom was ordered to pay MAD 6.38 billion to Inwi as compensation. As part of this new deal, the parties will settle this dispute, reducing the compensation to MAD 4.38 billion once the final documentation for the joint ventures is signed.

Through this ambitious partnership, Maroc Telecom and Inwi reaffirm their commitment to strengthening Morocco's digital infrastructure and actively contributing to the country's strategic projects. The collaboration will not only to provide top-tier connectivity for all Moroccan citizens and businesses but also to position Morocco as a leading player in telecommunications both in Africa and globally.

Both companies expressed gratitude to authorities and all stakeholders for their support and reaffirmed their commitment to being trusted partners in the technological and economic development of Morocco.

# Telkom Launches MVNO Platform in South Africa to Drive Inclusive Mobile Growth



South African operator Telkom has entered the mobile virtual network operator (MVNO) market through a strategic partnership with a mobile virtual network enabler (MVNE) platform provider. The agreement will help Telkom meet regulatory requirements set by ICASA, which mandates that mobile network operators must support at least three Black-owned MVNOs as part of their spectrum licence conditions.

South Africa's MVNO market is growing rapidly, fueled by banks, insurance firms, and major retailers driving competition, capitalizing on consumer loyalty to these brands. These businesses aim to create unique branded mobile products and services, build new value propositions, and offer value-added services to enhance customer engagement.

The Africa Analysis MVNO Report (February 2024) estimates the sector's potential revenue at ZAR83.6 million (US$4.6 million). Bizcommunity reports that since the sector's inception in 2006, subscriber numbers have risen by 51% year-on-year, reaching 4.3 million users by the end of 2023.

Telkom is actively inviting brands to explore partnership opportunities for launching MVNOs. Partners will have access to a platform that supports end-to-end customer engagement, product design and development, and network integration. The company also offers flexible onboarding, tailored support based on technology integration preferences, product development needs, and enhanced customer experience. Partners can also benefit from Telkom's reliable network and roaming capabilities.

# Revolutionizing Telecom:
## Innovative Designs for Next-Gen Networks

The telecommunications industry is experiencing a profound transformation as the world becomes more interconnected. Rising demand for faster, more reliable, and secure networks is intensifying, with next-generation networks (NGNs), especially 5G, at the forefront of this revolutionare set to reshape industries, enhance consumer experiences, and redefine how we live and work.

**The Need for Innovation**

Telecom network design has long been the backbone of connectivity. With the growing need for faster speeds, lower latency, and increased reliability, telecom providers face the challenge of adapting their networks to meet the demands of a digital-first world. The rapid rise of IoT (Internet of Things), artificial intelligence (AI), and data-driven services requires seamless connectivity that traditional network designs can't support.

5G is at the core of next-gen telecom networks. More than just an upgrade from 4G, it represents a complete architectural overhaul that leverages new designs and technologies to provide ultra-fast speeds, low latency, and enhanced reliability. The design of these networks is critical for their success in delivering on the promises of 5G.

**Virtualization and Software-Defined Networks**

One of the most significant innovations in next-gen network design is virtualization and software-defined networks (SDN). Historically, telecom networks were built around physical hardware, making them costly and inflexible to scale and optimize. SDN and network function

virtualization (NFV) change this by allowing telecom providers to virtualize their network functions, enabling them to operate on standard hardware instead of proprietary equipment.

This evolution not only reduces costs but also increases flexibility and scalability. Virtualized networks can be rapidly adapted to meet changing demands, allowing operators to offer more efficient and cost-effective services. As 5G networks are deployed, telecom providers can optimize their infrastructure and better manage the massive demand for data and new services with SDN and NFV, from smart cities to autonomous vehicles.

### Edge Computing and Distributed Networks

Another groundbreaking innovation is edge computing, which brings computation and data storage closer to the source of data generation. This reduces latency, increases speed, and better handles the enormous data volumes produced by IoT devices, sensors, and connected systems.

Edge computing's primary advantage is its ability to offload traffic from centralized data centers. By processing data closer to its source, it ensures that real-time applications—such as augmented reality (AR), virtual reality (VR), and autonomous driving—function optimally. Edge computing also decentralizes data processing, improving network resilience by reducing the risk of bottlenecks and single points of failure.

For telecom providers, integrating edge computing into next-gen networks opens new revenue streams, particularly in industries that rely on real-time data, such as healthcare, manufacturing, and entertainment.

### 5G: The Game-Changer

At the heart of next-gen networks is 5G technology, which represents a significant leap forward from 4G. Unlike its predecessors, 5G is designed to support a wide range of use cases, offering ultra-fast speeds, low latency, and the ability to connect billions of devices simultaneously.

One of the most powerful features of 5G is network slicing, which allows telecom operators to create multiple virtual networks on a single physical infrastructure. Each slice can be customized to support different applications, such as high-speed mobile internet, IoT services, or mission-critical systems for industries like healthcare or manufacturing.

5G also leverages millimeter-wave frequencies and small-cell technology, which enable high-speed data transmission over short distances. This innovation allows for more efficient use of the spectrum and ensures that 5G can handle the data influx generated by an ever-growing number of connected devices.

### Security at the Core of Network Innovation

As telecom networks evolve, so too must their security measures. With the introduction of 5G and the proliferation of connected devices, the potential attack surface for cybercriminals expands. To address this, telecom providers are adopting a security-by-design approach, integrating security measures into every layer of the network, from hardware to software.

AI-driven security tools are also being deployed to detect and mitigate threats in real-time. These innovations help telecom providers protect sensitive data and maintain the integrity of their networks, ensuring that users and critical infrastructure remain secure as they rely on increasingly complex digital ecosystems.

### The Future of Next-Gen Networks

Looking ahead, the potential for innovation in telecom is immense. AI and machine learning play a key role in network management, allowing telecom providers to predict and resolve issues before they impact performance. Additionally, the ongoing expansion of fiber-optic networks and satellite connectivity will help bridge the digital divide, bringing high-speed internet access to remote and underserved regions.

Next-gen networks will also enable smart cities, autonomous vehicles,

and advanced healthcare solutions. The convergence of telecom and other industries will drive hyperconnected ecosystems, fueling innovation and growth across sectors. This transformation will introduce new opportunities for telecom providers to offer a broader range of services, from real-time data processing to personalized experiences.

The designs for next-gen telecom networks go beyond improving speed and capacity; they are creating flexible, secure, and scalable infrastructures that can support the needs of a digital-first world. With innovations in virtualization, edge computing, 5G, and security, telecom providers are laying the groundwork for a new era of connectivity. These networks will drive technological advancements, transform industries, and change how we interact with the world. The future of telecom is bright, and it's powered by cutting-edge designs that will revolutionize connectivity for years to come. **TR**

> Next-gen telecom network designs go beyond speed and capacity, building flexible, secure, and scalable infrastructures for a digital-first world
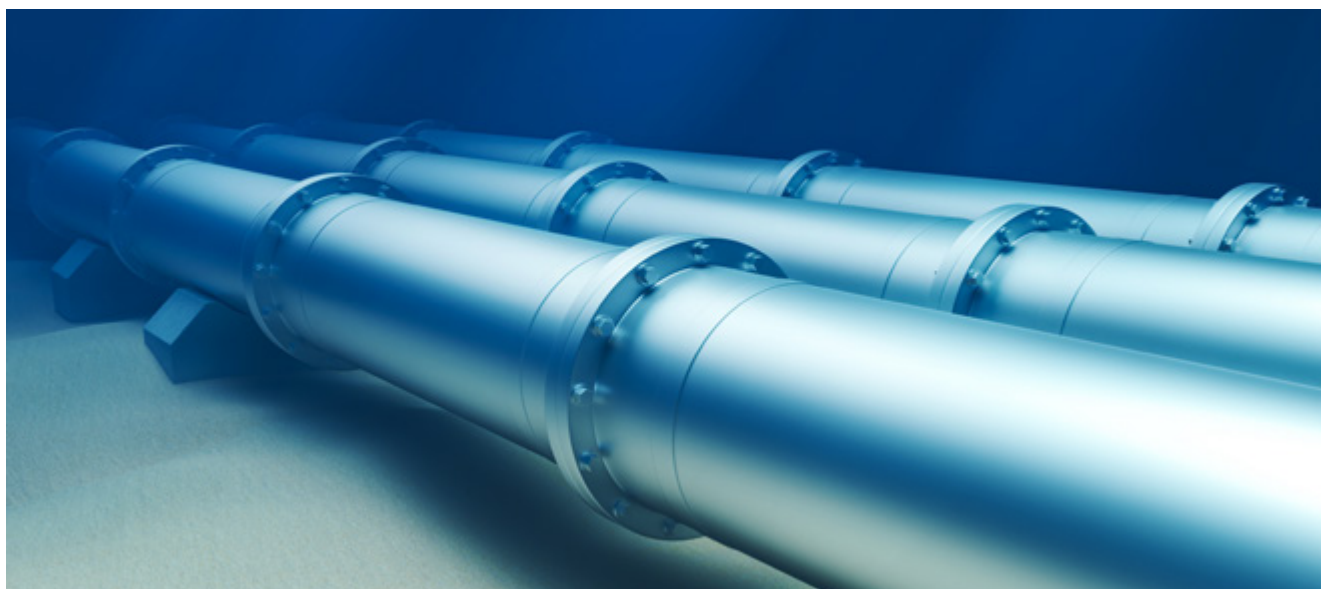
# Africa's Subsea Networks: The Backbone of Global Connectivity

In today's hyperconnected world, where video calls, social media, cloud computing, and streaming services are part of everyday life, the invisible infrastructure that makes it all possible often goes unnoticed. At the heart of this global digital ecosystem lies an intricate and extensive web of undersea cables, quietly transmitting 99% of international data traffic. These submarine communication cables are the unsung heroes of the digital age, forming the backbone of global connectivity.

### A Brief Dive into Africa's Subsea Cable History

Subsea cables not only encompass telegraphs or telephony; they now support the internet, enabling everything from international banking transactions to streaming a video from a server across the globe.

The first subsea cables connecting Africa included:

• **SAT-1 (1969):** This was Africa's first undersea cable, linking South Africa to Portugal via Angola using analogue coaxial technology. It eventually failed due to its limited capacity and was rendered obsolete due to the rise of digital fiber-optic systems.

• **SAT-2 (1993)**: SAT-2 connected South Africa to Europe via Portugal and Spain, offering digital transmission with improved capacity. Despite the advancement, the cable failed to keep pace with growing internet demands and was decommissioned as more advanced cables were introduced.

• **SAT-3 (2001):** This cable system linked South Africa to Europe and Asia via West Africa and the southern Indian Ocean, becoming a vital "internet artery" for Africa. Although, it suffered significant outages in 2020 and 2021 off the coast of the Congo.

• **WACS (2012):** The West Africa Cable System runs from South Africa to the UK along the west coast of Africa, offering high capacity and improved redundancy.

### The Invisible Arteries of the Internet

While satellite technology often takes the spotlight in discussions regarding global communication, the reality is that fiber-optic subsea cables carry the overwhelming majority of international internet traffic. More than 500 active subsea cables stretch over 1.4 million kilometers, connecting continents and islands across the Atlantic, Pacific, Indian Ocean, and beyond.

Each cable, often no thicker than a garden hose, contains optical fibers that transmit

data using light signals. These signals can travel thousands of kilometers with minimal loss, thanks to repeaters positioned along the cables that boost the signal's strength.

The importance of these networks cannot be overstated. From browsing websites to completing financial transactions and cloud-based services, subsea cables form the physical infrastructure supporting the digital economy.

### Africa's Subsea Renaissance
The strategic significance of subsea networks has grown in tandem with digital dependence. African countries and corporations are investing heavily in building, owning, and managing these cables to secure faster, more reliable data transmission routes. Technology giants such as Google, Meta, and Microsoft are directly investing in their own cables. For example, Google's Equiano cable connects Europe to Africa, and Meta's 2Africa cable is one of the largest subsea projects to date.

This shift reflects the growing geopolitical and economic relevance of digital infrastructure. Control over subsea networks fosters more than just improved connectivity; it translates into data sovereignty, economic competitiveness, and even national security.

Africa is experiencing a surge in subsea cable landings, driven by the rising demand for internet access and digital services. Historically underserved, the continent is now becoming a major node in global internet infrastructure. Projects like Equiano, 2Africa, and the PEACE Cable are reshaping Africa's digital landscape by providing high-capacity, low-latency connections to global hubs.

In February 2024, Bayobab successfully landed the 2Africa subsea cable in both Ghana and Nigeria, marking a significant step in bridging the continent's connectivity gap. Later in the year, in November 2024, Telecom Egypt announced the landing of the Africa-1 subsea cable, further reinforcing its role as a regional connectivity hub.

Beyond landings, new cable routes are forming. In January 2024, the launch of the Coral Bridge Subsea System, linking Egypt and Jordan, further cemented Egypt's strategic position in global data flow. In February 2024, Telecom Egypt joined forces with Hungary's 4iG Group to develop a new Albania-Egypt subsea link, creating a digital bridge between Africa and Europe.

These developments have profound implications. Improved connectivity boosts access to education, healthcare, and e-commerce, supports local innovation ecosystems, and reduces the cost of internet access. Subsea cables are, quite literally, laying the foundation for Africa's digital transformation.

### Vulnerabilities and Risks
Despite their importance, subsea cables are not invincible. They face numerous risks, from natural hazards like earthquakes and subsea landslides to human activities like fishing, anchoring, or even sabotage. Cable cuts can cause massive disruptions, especially for countries with limited redundancy in their infrastructure.

Geopolitical tensions have also spotlighted subsea cables as critical national infrastructure. Concerns over surveillance, espionage, and the monopolization of cable routes have prompted calls for greater regulation, transparency, and international cooperation.

Cybersecurity is another growing concern. While tapping a submarine cable requires specialized equipment and expertise, it is not impossible. Governments and private companies are increasingly focusing on securing not just the physical cable routes but also the data that flows through them.

In early 2024, internet outages swept across West and Central Africa, caused by simultaneous failures in multiple subsea cables. The disruptions underscored the continent's overreliance on a limited number of routes, making countries particularly vulnerable to single points of failure. The incident echoed a 2021 event, when both the SAT-3 and West Africa Cable System (WACS) suffered major breaks following a submarine mudslide, highlighting the growing environmental risks posed to underwater infrastructure.

In response, global bodies like the International Telecommunication Union (ITU) and the International Cable Protection Committee (ICPC) have ramped up efforts to safeguard submarine cable systems, notably launching the International Advisory Body for Submarine Cable Resilience.

### The Future of Subsea Connectivity
The demand for global data capacity is skyrocketing, driven by emerging technologies like 5G, artificial intelligence (AI), and the Internet of Things (IoT). This demand necessitates continued investment in subsea infrastructure. Future cables are being designed to handle more capacity and become more resilient against faults.

Innovations in cable architecture, such as space-division multiplexing (SDM), are set to dramatically increase the volume of data a single cable can carry. Last year, Telecom Egypt and SubCom completed the landings of the 10,000 km IEX subsea cable system. SubCom was selected to engineer, manufacture, and deploy the system, which integrates SDM and wavelength selective switch (WSS), reconfigurable optical add-drop multiplexer (ROADM) technologies. These innovations enable greater bandwidth, enhanced efficiency, and more flexible traffic routing, making the infrastructure more adaptable to surging digital demand across Africa.

As our reliance on cloud services and digital communication grows, subsea networks will only become more critical. They may lie hidden beneath the ocean's surface, but their impact is felt across every sector of society and every corner of the globe.

Subsea networks are far more than a technical marvel; they are the foundation of the modern digital world. They connect people, power economies, and enable the global flow of information that defines our era. As we move into an increasingly digital future, safeguarding and expanding this vital infrastructure will be key to ensuring that connectivity remains fast, secure, and universally accessible. **TR**

# Vodacom Unveils New Data Center to Drive Mozambique's Digital Future



Vodacom Mozambique has officially unveiled its USD 25 million state-of-the-art data center in Matola, Maputo, marking a pivotal milestone in the country's digital transformation and infrastructure development.

This world-class facility reaffirms Vodacom's dedication to empowering businesses, government institutions, and the broader economy through cutting-edge technological solutions.

The facility is designed to provide a secure, high-performance environment for hosting servers and network systems, catering to the growing demand for reliable and scalable enterprise solutions. As businesses in Mozambique continue to embrace digitalization, the need for robust and future-ready infrastructure has never been greater, and Vodacom's new data center rises to meet this challenge.

Vodacom Mozambique's Chairman of the Board, Lucas Chachine, explained that this Tier 3 data center (the second highest among four levels of resilience) "ensures that Mozambique can store and process its data with security, efficiency, and digital sovereignty." He mentioned that, previously, "many companies and institutions have depended on data centers located" abroad, resulting in "high costs, greater latency, less security, and less control" of the information itself.

Equipped with advanced technology and an uptime guarantee 99.982%, the facility delivers unparalleled connectivity, best-in-class data security, and outstanding energy efficiency. It offers a resilient platform capable of supporting mission-critical applications, cloud services, and real-time data operations, ensuring that organizations remain agile, competitive, and ready for growth in the digital era. The carrier-neutral data center also offers direct access to the 2Africa subsea cable, hosted in Vodacom Mozambique's equipment room in Matola.

This launch represents more than just an infrastructure implementation; it's a strategic investment in Mozambique's digital future. It supports the country's ambition to become a regional leader in digital innovation, while opening the door to new possibilities for local enterprises, startups, and multinational companies operating in the region.

# Airtel Uganda Boosts Connectivity with New Towers in Eastern Region



Airtel Uganda has officially commissioned upgraded and newly installed network masts in Eastern Uganda as part of its nationwide rollout to improve digital access. Working in partnership with local district leaders in Soroti, Tororo, and Bugiri, the telecom giant hosted launch events at Asuret Sub-County Offices in Soroti and Kointario Primary School in Malaba, Tororo District.

Since transitioning to a 100% 4G network in 2019 and rebranding from 'A Smartphone Network' to 'A Reason to Imagine', Airtel Uganda has remained steadfast in its commitment to bridging the digital divide. The newly launched sites reflect the company's broader goal of enhancing connectivity, empowering more Ugandans through digital inclusion, and contributing to socio-economic growth.

Speaking on behalf of Airtel Uganda's Managing Director, Mr. Soumendra Sahu, Growth Markets Director, Mr. Wongani Muthiya, reiterated Airtel's dedication to supporting financial digital inclusion. He noted that improved connectivity would significantly contribute to the economic aspirations of Soroti's youthful population and the region's agricultural sector.

"Airtel's presence will support this community. And, as always, we remind everyone: never share your Airtel Money PIN," Muthiya emphasized.

Airtel's Public Relations Manager, Mr. David Birungi, echoed these remarks, stating that the company's core mission is to drive economic transformation by connecting people and businesses. "That's why we're here today; to continue expanding and strengthening our network," he said.

The initiative was met with praise from local leaders. Hon. Michael Olugu, Head of the Committee on Works and Natural Resources and representative of the Soroti LC5 Chairperson's Office, welcomed the infrastructure improvements and pledged the district's ongoing support. Soroti Resident District Commissioner, Mr. Paul Eseru, highlighted Airtel's far-reaching impact, sharing how he personally stayed connected with Uganda while traveling abroad.

# MTN Nigeria Enhances Broadband Services with the Launch of FibreX



MTN Nigeria has announced the rebranding of its fiber broadband service to FibreX, marking a significant stride in delivering next-generation internet solutions across the nation.

Formerly known as MTN Fibre Broadband, FibreX embodies the company's commitment to providing ultra-fast, reliable, and accessible internet services, aligning seamlessly with Nigeria's National Broadband Plan (NBP) 2020–2025.

The NBP aims to achieve 70% broadband penetration by 2025, ensuring minimum speeds of 25 Mbps in urban areas and 10 Mbps in rural regions.

"The launch of FibreX reiterates our dedication to supporting Nigeria's digital transformation journey. By enhancing our infrastructure and services, we aim to bridge the digital divide and foster inclusive growth," said Egerton Idehen, Chief Broadband Officer, MTN Nigeria.

FibreX is set to play a pivotal role in the Federal Government's initiative to expand the nation's fiber-optic network by an additional 90,000 kilometers, aiming to increase fiber capacity from 35,000 km to 125,000 km.

FibreX's ultra-fast and reliable internet connectivity aims to meet the diverse needs of Nigerians, from bustling urban centers to remote rural areas.

While the service itself retains its powerful FTTH (Fiber-to-the-Home) infrastructure, the new name, FibreX, was adopted to create a more customer-friendly brand.

# Zain Unveils 'Bede' Fintech Platform in Sudan



Zain Fintech (Zain), the financial services arm of Zain Group and a leading provider of innovative technologies and digital lifestyle communications operating in eight markets across the Middle East and Africa, has launched the 'Bede' Digital Wallet in Sudan.

The safe and secure platform will empower Zain customers in Sudan to carry out a wide range of financial transactions directly via their mobile phones, without the need for a traditional bank account or card. Significantly, the service is designed to work across different phone types, including basic feature and smart phones, catering to the needs and requirements of the Sudanese community.

The initial launch phase of the service includes core transactions such as money transfers, airtime top-ups, bill payments, merchant purchases, and cash deposits and withdrawals through a broad network of certified agents operating across neighborhoods and market locations.

The launch ceremony held in Port Sudan was attended by representatives of the Sovereign Council, federal and state ministries, ambassadors, Zain management, as well as industry specialists, banking partners, and media representatives.

Malek Hammoud, Zain Group Chief Investment and Digital Officer,commented, "The launch of 'Bede' marks a major leap towards achieving digital transformation, enhancing financial inclusion, and empowering families, women, and youth in Sudan. The wallet's role is to simplify everyday financial interactions and support citizens' daily lives. Bede has already been successfully deployed in Bahrain and the dynamic platform has gained a strong reputation for its efficiency, ease of use, and high reliability. We expect to replicate this performance in Sudan and other Zain markets."

Hammoud continued,"Bede aims to allow everything to be made in the palm of one's hand, catering to consumers' lifestyles and emerging demands beyond basic telecom services. The introduction of Bede in Sudan represents a major step in Zain's strategic '4WARD-Progress with Purpose' aspirations to expand its regional leadership in the fintech arena, supported by our footprint, customer base, and leading technologies."

The rollout of Bede in Sudan is set to occur in three phases. The first involves the initial offer of the service, while the second phase incorporates its integration with additional banks in Sudan and the addition of services, including electricity purchases and access to various government transactions. The third phase will introduce banking services, international remittance services, savings and financing products, and full interoperability with all banks operating in Sudan.

Bede operates under robust strategic partnerships and in full alignment with the policies of the Central Bank of Sudan, which regulates and supervises digital wallet activities through clear legal frameworks and governance policies. Several banks oversee the management of Bede's trust accounts, ensuring accurate settlements and transparent financial reporting.
Bede complies with national standards for anti-money laundering, anti-corruption, customer data protection, and financial transparency, with the wallet also offering a secure and integrated digital financial experience that prioritizes data security and user privacy.

# Navigating the Evolving Legal Landscape of GenAI and IP Rights

Generative AI (GenAI) has ushered in a new era of creativity and innovation, revolutionizing the way content is produced across a wide array of industries. From generating stunning artworks and composing music to writing articles and even coding software, GenAI is rapidly shaping the future of creative industries.

However, with this rapid advancement comes an array of complex legal challenges, particularly in the realm of intellectual property (IP) rights.

As GenAI's capabilities continue to grow, so does the need for a deeper understanding of how traditional IP frameworks can, or cannot, accommodate AI's evolving role in content creation.

### The Intersection of AI and Intellectual Property Law
Intellectual property law has long been the foundation for safeguarding human creativity and innovation. Traditionally, IP laws assign ownership of a creative work to its human creator, whether they be an individual or a legal entity. However, with the rise of GenAI, which can autonomously generate content, questions about authorship and ownership are emerging.

For example, "Edmond de Belamy," created by the Paris-based art collective, Obvious, was generated using a generative adversarial network (GAN) trained on historical portraits. When the piece was auctioned at Christie's for USD 432,500, questions arose about who held the copyright.

Should the rights to content created by AI belong to the creator of the AI

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system, or the user who provides the prompt?

These issues lie at the heart of the legal complexities surrounding AI and intellectual property rights.

### Ownership and Authorship: A New Paradigm

One of the most pressing issues in the legal landscape of GenAI is determining who owns AI-generated works. For example, if AI creates a painting, a poem, or even a novel, who holds the rights to that work? Should ownership belong to the developer of the AI system who created the underlying algorithms, or to the user who provided the input? These questions remain largely unanswered, and the lack of clarity is causing confusion among creators, businesses, and legal professionals.

This issue came into sharper focus when a request to grant intellectual property protection for a work produced solely by AI was rejected. In 2019, the U.S. Copyright Office rejected a request to grant copyright protection for an artwork titled "A Recent Entrance to Paradise," which was created solely by the Device for Autonomous Bootstrapping of Unified Sentience (DABUS).

The ruling reinforced the traditional view that IP protection requires human authorship, emphasizing that AI cannot be considered a legal author. However, this decision highlights the growing disconnect between IP laws and the evolving capabilities of modern AI. Legal scholars and industry experts are now calling for a more adaptable approach that accounts for the increasingly autonomous role AI plays in creative processes.

### Patent Law and AI-Driven Innovation

Patent law also faces significant challenges as GenAI systems become integral to the development of new technologies. As AI systems assist in designing products, processes, and innovations, the issue of who should be credited as the inventor becomes a key concern. In most jurisdictions, patents can only be granted to human inventors. However, as AI continues to play a critical role in the inventive process,

there is growing pressure to reconsider this longstanding requirement.

In recent years, courts have reinforced the principle that only humans can be named as inventors on patent applications, emphasizing that AI cannot hold such a title. However, some innovators and legal experts argue that AI's role in inventing new technologies has become so significant that it may be time to reconsider this restriction.

For instance, South Africa made headlines by becoming the first country to grant a patent listing recognizing the previously mentioned AI system, DABUS, as the inventor. This decision, made by the South African Companies and Intellectual Property Commission (CIPC) in 2021, sparked significant debate. Unlike other jurisdictions, such as the U.S. and Europe, which rejected similar applications, South Africa's patent system does not require substantive examination of applications, focusing instead on formal compliance.

These discussions underscore the growing tension between traditional IP frameworks and the evolving role of AI as a key driver of technological progress.

### Fair Use and AI-Generated Content

Another area where the intersection of GenAI and IP law is being tested is in the realm of fair use. AI systems are often trained on vast datasets that may include copyrighted materials, such as books, articles, and images. This raises concerns about whether the use of these materials by AI to generate new content could be considered copyright infringement.

For instance, if AI generates an image or text that closely resembles an existing copyrighted work, the original content owner might claim their intellectual property has been violated. Conversely, supporters of AI argue that the transformative nature of AI-generated content could qualify as fair use, particularly when the resulting work is significantly different from the input material. As AI-generated content becomes more widespread, this debate is likely to intensify, with courts and lawmakers facing pressure to

establish clearer guidelines on the use of copyrighted materials by AI systems.

### Ethical and Regulatory Considerations

The ethical implications of GenAI are also becoming a central concern as the technology continues to evolve. AI systems are capable of producing content that mimics human styles, voices, and identities, which raises important questions about privacy, consent, and the potential for misuse.

AI-generated deepfakes or other forms of synthetic media can be used to manipulate public opinion or infringe personal rights. As AI technology advances, governments and regulatory bodies are beginning to introduce frameworks to ensure that AI is developed and deployed ethically.

In October 2024, South Africa introduced the National AI Policy Framework, which aims to guide the ethical use of AI technologies. Similarly, the National Artificial Intelligence Policy for the Republic of Rwanda serves as a roadmap to enable Rwanda to harness the benefits of AI.

### The Future of GenAI and IP Law

As GenAI continues to evolve, the need for updated and comprehensive intellectual property laws is becoming increasingly urgent. From authorship and ownership to patentability and fair use, the legal challenges posed by AI-generated content require a reevaluation of traditional IP frameworks. Businesses, creators, and legal professionals must stay informed about these changes and actively participate in shaping the future of AI and intellectual property rights.

As the world continues to explore the boundaries of AI, one thing is certain: the intersection of AI and IP law will be a key battleground in the future of innovation and creativity.

While the legal landscape remains uncertain, it is clear that IP laws will need to adapt to keep pace with the rapid growth of AI technology. The coming years are likely to see new regulations, court rulings, and policy initiatives that will shape how GenAI and intellectual property coexist. **TR**

# Managing Data in the Internet of Bodies Era: Challenges and Opportunities

As the Internet of Things (IoT) matures, a more intimate offshoot is gaining momentum: the Internet of Bodies (IoB). This concept involves integrating technology directly with the human body through wearable, ingestible, and implantable devices that collect and share health-related data.

From smartwatches to pacemakers and biosensors, these connected systems are transforming how we understand and manage personal health. However, with this innovation, comes a new frontier of data management concerns, especially regarding privacy, security, and regulation.

Recently, the Fourth ATU Innovation Challenge ended, celebrating breakthrough innovations in Africa's healthcare sector, while spotlighting the need to manage data in the technological era.

### What is the Internet of Bodies?
IoB goes beyond traditional wearables; it includes a wide array of smart devices that either attach to, or operate inside, the human body, continuously gathering biometric and physiological data. Think of glucose monitors that sync with mobile apps, ingestible sensors that track medication intake, or neurotechnology tools used for cognitive enhancement or mental health monitoring.

This ecosystem is expanding rapidly, with healthcare providers, tech companies, and consumers eager to leverage its potential. For example, Qualcomm's advanced platforms for next-generation wearables and RFFE modules catalyzed a movement that has gained momentum since 2022 and now encompasses a broad spectrum of smart devices worn on, or embedded within, the human body.

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Furthermore, factors such as the rise in chronic diseases, aging populations, and a global shift toward telehealth are accelerating the growth of IoB technologies. Interestingly, the global Internet of Medical Things (IoMT) market is projected to soar to USD 370.9 billion by 2032, growing at a compound annual growth rate (CAGR) of 23.15%.

## The Complexities of Data Management

Alongside the benefits of IoB come significant responsibilities. Managing the enormous and sensitive datasets generated by these devices is no small task. The challenges span multiple dimensions:

### 1. Privacy and Informed Consent

IoB data includes highly personal and biometric information. Ensuring individuals are fully aware of what data is being collected, why, and who can access it is essential. Unfortunately, many current consent models are buried in complex terms and conditions that few users fully understand.

### 2. Cyber Threats

IoB devices can be vulnerable to hacking. A compromised device like a pacemaker or insulin pump could have life-threatening consequences. Strong cybersecurity protocols—including encryption, multi-factor authentication, and regular updates—are critical but not consistently applied across the industry.

### 3. Lack of Standardization and Interoperability

For data to be effectively used in healthcare, IoB systems need to communicate across platforms. However, the industry lacks universal standards, leading to fragmented systems where valuable data remains siloed and underutilized.

### 4. Data Deluge

IoB devices produce a constant flow of information. Healthcare professionals and systems are increasingly faced with determining which data is actionable, how to store it efficiently, and how to ensure timely analysis without overwhelming their resources.

## Unlocking the Potential of IoB

Despite the hurdles, the opportunities presented by IoB are vast and transformative:

### 1. Precision Healthcare and Personalized Treatment

IoB devices provide real-time data that can catalyze more personalized, accurate medical decisions. Treatments can be customized based on individual physiological responses, enhancing effectiveness while minimizing side effects.

### 2. Preventative and Proactive Health Management

By detecting abnormalities early, before symptoms become severe, IoB can ensure preventative care. Devices such as continuous heart monitors or smart asthma inhalers permit early intervention, reducing hospital admissions and improving quality of life.

### 3. Accelerated Medical Research and Public Health Insights

With proper anonymization, aggregated IoB data can contribute to large-scale health studies, improving understanding of disease patterns, treatment outcomes, and population health trends.

### 4. Expanding Access to Care through Remote Monitoring

IoB tools extend healthcare services to rural or underserved areas. Patients can be monitored from home, reducing travel time and ensuring consistent care, even when access to clinics is limited.

## The Role of Ethics and Regulation

As IoB devices become more embedded in our daily lives, regulatory frameworks must evolve in tandem. Protecting users' rights, securing data, and ensuring ethical use of technology must be central to the conversation.

Ethical questions also arise: Who owns IoB data? Can patients opt out of data sharing without sacrificing medical care? What mechanisms ensure that benefits reach all socio-economic groups equally?

From an ethical perspective, a collaborative effort between the Association of African Universities, the University of Nottingham, and the Ethical Data Initiative has led to the development of the Ethical Data Discussion Series. This series explores ethical considerations surrounding digital technologies and data collection.

## Building a Responsible IoB Future

To maximize the impact of an IoB-centric future, while minimizing risks, a collaborative, cross-sector approach is essential. Key focal areas include:

- **Embedding security at the design stage** to prevent vulnerabilities before devices hit the market. Agreeing with this approach in an exclusive interview with Telecom Review Africa, cybersecurity expert, Doreen Mokoena, mentioned that sandboxes serve as "safe spaces where businesses can test out new security technology."

- **Empowering users with transparency and control** over how their data is used and shared. Notably, Ookla is embracing this metamorphosis by advocating for multi-dimensional data.

- **Promoting interoperability and open standards** to streamline data flow across platforms and providers, as demonstrated by the African Telecommunications Union's (ATU) active participation at the 2024 World Telecommunication Standardization Assembly (WTSA).

- **Creating ethical oversight structures** to ensure fairness, accessibility, and respect for human rights.

The IoB sector is breaking the boundaries between the human body and digital networks. As we move deeper into this era, data management will be central to realizing its promise and protecting its users. While the challenges are real and complex, so too is the potential for improved health outcomes, better quality of life, and more inclusive care.

Through thoughtful design, robust regulation, and shared accountability, the future of IoB can be both innovative and trustworthy. **TR**

# Nigeria Strengthens Space Governance for National Growth



Nigeria's Minister of Innovation, Science and Technology, Chief Uche Geoffrey Nnaji, has reaffirmed the country's commitment to expanding its presence in space.

During a stakeholder workshop focused on implementing the 2015 Regulations on Licensing and Supervision of Space Activities, Nnaji highlighted that space is no longer just the realm of visionaries; it has become a crucial element for driving innovation, economic development, and national security.

Nnaji discussed the updated regulatory framework, which is designed to ensure fair and effective oversight of space operations, protect Nigeria's orbital slots and frequency resources, and minimize risks related to space debris and congestion. He also emphasized the country's commitment to fully aligning with international space obligations.

Moreover, Nnaji expressed gratitude to Dr. Mathew Adepoju and the National Space Research and Development Agency (NASRDA) team for their tireless work, underscoring the importance of collaboration. He remarked, "This journey is not one the government can walk alone; it requires strong partnerships with the private sector, academia, and global allies."

# Republic of Congo Invests $1.3 Million to Strengthen Cybersecurity Efforts



The Republic of Congo has allocated a substantial 800 million CFA francs (approximately $1.3 million) to support the operations and initiatives of its National Cybersecurity Agency (ANSSI). This strategic investment is a clear reflection of the government's strong commitment to strengthening the nation's cybersecurity infrastructure, safeguarding valuable digital assets, and effectively mitigating the growing range of cyber threats.

As cyber risks become increasingly complex, this funding will play a pivotal role in equipping ANSSI with the necessary resources to implement advanced security frameworks. Additionally, the investment will help strengthen the resilience of the country's digital ecosystem, ensuring a safer and more secure environment for both businesses and individuals in the Republic of Congo.

# Telecom Revenue in South Africa Hit ZAR 232.6 Billion in 2024



In 2024, South Africa's telecommunications sector saw a revenue growth of 11.7%, rising from ZAR 208.29 billion in 2023 to ZAR 232.67 billion, according to the latest data from the Independent Communications Authority of South Africa (ICASA).

This growth was primarily fueled by a 10.21% increase in mobile services revenue, which reached ZAR 132.38 billion.

During 2024, there was a 7.46% increase in mobile cellular subscriptions, bringing the total to an impressive 116.8 million. Concurrently, smartphone subscriptions experienced a significant surge, rising by 10.36% to reach 82.7 million. This impressive performance signals a strong rebound and continued growth, driven by surging demand for mobile data, broader internet access, and increased investment in digital infrastructure.

Total mobile services revenue increased by 10.21%, with mobile data services increasing by 6.86%. Revenue from voice services decreased by 7.70%, continuing its downward trend. Revenue from text and multimedia messaging services increased by 20.45%, while outbound roaming revenue decreased by 38.69%.

Fixed internet and data revenue exhibited a strong growth of 14.62%, indicating a growing demand for broadband services, as more households and businesses turned to digital tools for remote work, online learning, and streaming.

Leading operators such as Vodacom, MTN, Cell C, and Telkom continued to invest in expanding their 4G and 5G networks, helping bridge the digital divide.

With its digital economy on the rise, South Africa's telecom sector is well-positioned for sustained growth, underpinned by innovation, greater affordability, and improved nationwide connectivity

# Oman and Rwanda Strengthen ICT Cooperation



The Sultanate of Oman and the Republic of Rwanda have signed a Memorandum of Understanding (MoU) to enhance cooperation in the fields of information and communication technology (ICT) and digital economy development.

H.E. Dr. Ali bin Amer Al Shidhani, Undersecretary of the Ministry of Transport, Communications and Information Technology (MTCIT), representing Oman; and Yves Iradukunda, Permanent Secretary of the Ministry of Communications, Information Technology, and Innovation (MINICT), representing Rwanda, signed the MoU.

The MoU aims to foster cooperation and knowledge exchange in digitizing government services, digital transformation, and the application of artificial intelligence (AI).

The arrangement will also focus on private sector involvement and systems integration in ICT and innovation. Focus areas of the MoU include promoting joint research initiatives focused on emerging technologies such as artificial intelligence, blockchain, and the Internet of Things (IoT). It also includes measures to enhance cybersecurity and develop the ICT sector of both nations.

The agreement envisions strengthening the capabilities of emerging tech companies and small and medium-sized (SMEs) enterprises, improving data protection expertise and advancing personal data protection and digital economy initiatives.

Oman Vision 2040 national development strategy aims to transform Oman into a developed nation with a knowledge-based economy, sustainable development, and enhanced quality of life for its citizens.

TELECOM Review AFRICA

# Optimizing Telecom Networks: RAN and SDN Load Balancing Drive Peak Performance

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**As the telecom industry evolves to meet the surging demand for data and seamless connectivity, ensuring network efficiency and performance has become a top priority for operators worldwide.**

intelligent load balancing techniques—particularly through radio access networks (RAN) and software-defined networking (SDN)—is emerging as a critical strategy.

### The Growing Complexity of Telecom Networks

Telecom networks are no longer static, hardware-driven systems; they are becoming increasingly software-defined, virtualized, and decentralized.

This shift, while enabling greater flexibility and scalability, also introduces a new level of complexity in managing traffic efficiently.

During a telecom network-focused panel at the 18th edition of the Telecom Review Leaders' Summit, Fernando Camacho, Co-Chair of the Autonomous Networks Project at TM Forum, underscored the growing complexity of networks and the need for embedded intelligence. He said that the inevitability of AI in networks and its role in achieving Level 4 autonomy, where networks make decisions assisted by human oversight, cannot be overlooked.

### RAN Load Balancing: Managing the Edge

RAN constitutes the network segment that connects end-user devices to the core telecom network via base stations and antennas. As the first point of contact for mobile users, RAN performance directly influences user experience (UX).

With increasing user density and dynamic mobility patterns, RAN segments often experience uneven traffic distribution. For example, during a large public event, a single cell tower may receive a sudden spike in user connections, leading to congestion and degraded service quality.

To combat this, inter-cell load balancing (ICLB) can be employed. This technique involves transferring traffic from overloaded cells to neighboring underutilized cells.

Load balancing can be achieved by optimizing handover parameters. Users can be seamlessly transferred to different cells based on their signal strength, network load, and mobility patterns. By combining multiple frequency bands, carrier aggregation (CA) increases the available bandwidth for users, helping balance load across spectrum resources. Advanced antenna technologies facilitate dynamic radio resource allocation, focusing signal strength where it is needed most, thereby optimizing RAN utilization.

### SDN Load Balancing: Core Intelligence

While RAN manages the edge, the core of the network can benefit immensely from SDN, which decouples the control and data planes to enable centralized network management. SDN controllers can monitor traffic patterns across the entire network and make real-time routing decisions to prevent congestion.

Through SDN, telecom operators can implement granular policies that prioritize specific types of traffic (e.g., emergency services or enterprise applications) over less critical flows.

A key component of 5G, network slicing allows operators to create multiple virtual networks on a shared infrastructure, each optimized for different use cases. SDN ensures these slices are balanced and efficiently managed. This approach isn't new. Back in 2022, Nokia successfully piloted 4G and 5G fixed wireless access (FWA) network slicing with mobile operator, Safaricom, on its live commercial network utilizing a multi-vendor network environment,

**T**he rollout of 5G, proliferation of Internet of Things (IoT) devices, and an ever-growing number of bandwidth-intensive applications have placed unprecedented pressure on telecom networks. In an exclusive interview with Telecom Review, Meng Zuo, Vice President of Huawei's Data Communications Product Line, emphasized, "The network has evolved from connecting people to connecting everything. It also extends from office scenarios to production scenarios. Due to this, network requirements have changed greatly."

In this high-stakes environment, optimizing network resources through

including RAN, transport, and core as well as software upgrades. The pilot has since supported new types of enterprise network services, including fast lane internet access and application slicing.

### Synergizing RAN and SDN for Holistic Load Balancing

Individually, RAN and SDN load balancing strategies provide significant advantages. However, their combined application creates a synergistic framework that enables end-to-end network optimization. For example, when a RAN segment becomes congested, the SDN controller can reroute traffic through alternative network paths or offload traffic to Wi-Fi or small cell networks. Conversely, SDN intelligence can inform RAN about expected traffic surges, enabling preemptive adjustments at the edge. This level of coordination ensures that the entire network, from edge to core, operates as a unified, intelligent system capable of adapting to shifting conditions and user demands.

In urban environments where mobile traffic is dense and highly variable, integrated RAN-SDN load balancing ensures continuous connectivity for services like public transport tracking, smart lighting, and emergency response systems. Manufacturing plants using IoT sensors rely on ultra-reliable, low-latency communication. Load balancing guarantees that critical machine-to-machine traffic is prioritized without disrupting other network services. Telecom operators often deploy temporary infrastructure for concerts, sports events, or festivals. Intelligent load balancing helps handle unpredictable traffic spikes without service degradation.

As telecom networks become more software-centric and service-oriented, the role of intelligent load balancing grows increasingly strategic.

Future-proofing the network encompasses creating adaptable architectures that can not only absorb current data traffic but also seamlessly evolve as user behaviors and digital services change.

Leading operators and innovators are taking the necessary steps to synergize RAN and SDN to achieve holistic load balancing in telecom networks. For instance, MTN Group trialed a Sleeping Cells Self-healing Solution in South Africa, which automates the detection, diagnosis, and recovery of inactive cells. This initiative has resolved over 80% of service issues related to dormant cells, thereby improving overall network efficiency.

Orange Middle East and Africa partnered with Amazon Web Services (AWS) to leverage advanced cloud technologies and act as an anchor customer for AWS Wavelength Zones. By hosting IT workloads locally and closer to end users, Orange aims to enhance application responsiveness while streamlining traffic routing across its network, directly supporting more balanced RAN and SDN integration.

Similarly, the Global TD-LTE Initiative (GTI) has launched the Intelligent RAN, Ubiquitous AI Project, focusing on embedding artificial intelligence into RAN operations and accelerating the adoption of 5G-Advanced (5G-A). This project seeks to optimize network performance and empower AI-driven traffic management, a crucial aspect of SDN-enabled dynamic load distribution.

Moreover, PCCW Global's Console Connect platform expands SDN capabilities across major hubs, enabling seamless, scalable traffic management. Players like Telcovas and e& further illustrate this trend. Telcovas is integrating NFV (network function virtualization) and SDN to enrich its network architecture, while e& is reshaping its telecom strategy by embracing SDN to enhance service agility and efficiency.

Safaricom has deployed E-band microwave transport solutions, specifically the MINI-LINK 6352, supporting multi-gigabit backhaul capacities that are crucial for managing increased data traffic and ensuring balanced load distribution across network cells.

### The Future of Load Balancing in Telecom

Looking ahead, the integration of artificial intelligence (AI) and machine learning (ML) into load balancing systems will further enhance predictive capabilities. Networks will be able to forecast congestion patterns, proactively redistribute resources, and self-optimize without human intervention.

Moreover, the growing adoption of Open RAN and edge computing will make RAN-SDN synergy even more critical. Open architectures provide the flexibility needed to deploy vendor-agnostic load balancing solutions, while edge computing pushes intelligence closer to users, reducing latency and improving responsiveness.

In the quest to deliver faster, more reliable, and scalable connectivity, telecom operators must embrace advanced load balancing strategies across both RAN and SDN domains. By doing so, they can unlock the full potential of their infrastructure, enhance quality of service, and remain competitive in an increasingly connected world.

The convergence of intelligent RAN and SDN load balancing is not just a technical upgrade; it is a strategic necessity for the future of telecom. ▮

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# Huawei Reports Revenue Increase in 2024 Amid Declining Margins



Huawei Technologies (Huawei) has released its 2024 annual report, revealing a revenue of CNY 862.1 billion (USD 118.8 billion), indicating a 22.4% increase year-over-year (YoY).

However, the Chinese conglomerate's net profit dropped by 28% to CNY 62.6 billion (USD 8.63 billion), with operating margins declining from 14.8% to 9.2%.

Huawei's remarkable revenue growth was driven by its consumer business, particularly by strong smartphone sales in China, which surged to CNY 339 billion by 38%.

Meng Wanzhou, Huawei's Rotating Chairwoman, highlighted, "Our devices are now back in the fast lane, and we are making historic breakthroughs in HarmonyOS ecosystem development."
The company also maintained a steady performance in its information and communication technology (ICT) infrastructure segment, which grew by 4.9%, totaling USD 369.9 billion.

Moreover, Huawei's spending on research and development (R&D) reached CNY 179.7 billion in 2024, representing 20.8% of its total revenue.

Liang Hua, Huawei's Chairman of the Board, emphasized, "Over the past year, we strengthened investment in innovation and R&D. We continued to hone our overall competitive edge while improving customer satisfaction and user experience."

# Ericsson Delivers Strong Q1 with Momentum in Technology Leadership



Ericsson reported a solid first quarter, showcasing growth in both technology leadership and financial performance. The company expanded its portfolio of high-performing, energy-efficient products and launched Asia Pacific's first programmable network in partnership with Telstra, featuring 5G Advanced. In the U.S., all three major operators deployed Ericsson's network API fraud detection solution, while new Aduna partnerships were also announced.

Financially, reported sales reached SEK 55.0 billion. Adjusted gross income rose to SEK 26.7 billion with a margin of 48.5%, reflecting improvements across all segments. Adjusted EBITA increased to SEK 6.9 billion, representing a 12.6% margin, while net income reached SEK 4.2 billion. Free cash flow before M&A stood at SEK 2.7 billion.

President and CEO Börje Ekholm stated: "We sustained solid momentum in Q1, despite a fast-changing macro backdrop. Our strong execution highlights our competitiveness, and we remain confident in our position in Mobile Networks, with Enterprise expected to stabilize by 2025."

# Nokia and Moroccan Ministry Partner to Fast-Track Digital Morocco 2030 Goals



Nokia and the Ministry of Digital Transition and Administration Reform of the Kingdom of Morocco have signed a Memorandum of Understanding (MoU) to support the country's Digital Morocco 2030 strategy. The agreement, signed by the Minister of Digital Transition and Administration Reform, Amal El Fallah Seghrouchni, and Pierre Chaume, Nokia's Vice President for North, West, and Central Africa, marks a significant step in strengthening Morocco's digital infrastructure and innovation capabilities.

With Morocco preparing to host major international sports events in 2025 and 2030, Nokia will provide cutting-edge telecommunications expertise to ensure high-quality connectivity and enhanced digital experiences for participants and visitors. The collaboration also aims to expand the nation's digital readiness through the deployment of 5G networks, fiber optic infrastructure, and national initiatives like the High Debit Plan and infrastructure-sharing frameworks.

Central to this partnership is the Nokia Innovation Center (NIC), inaugurated by the Ministry, which will serve as a hub for training local talent, fostering research, and developing tailored technological solutions. The center will also support the Ministry's Al Jazari initiative, further empowering local innovation.

In addition to infrastructure development, the MoU outlines plan to enhance digital skills among Moroccan youth through internationally recognized certification programs in telecommunications, IT, and digital technologies.

Nokia also intends to introduce its Network as Code (NaC) platform to establish a National Digital Fabric (NDF)—a national gateway that will provide access to 4G and 5G telecommunications services via application programming interfaces (APIs). This platform will enable startups, enterprises, and universities to create innovative applications, contributing to the country's digital economy and technological advancement.

The agreement builds on prior collaboration between Nokia and the Ministry, including the opening of the Innovation Center in October 2023 and a ministerial visit to Nokia's headquarters in Finland earlier this year.

"Nokia is proud to collaborate with the Moroccan government in achieving its ambitious digital goals. Through knowledge-sharing, talent development, and cutting-edge technology, we look forward to supporting Morocco's digital evolution and contributing to its economic growth as part of our ongoing collaboration," said Pierre Chaume, Vice President of North, West, and Central Africa for Network Infrastructure at Nokia.

# Huawei Egypt Welcomes Benjamin Hou as Its New CEO



Huawei Egypt has announced the appointment of Benjamin Hou as its new Chief Executive Officer. This strategic move aligns with the company's ambitious vision to strengthen its market leadership in Egypt by accelerating digital transformation, advancing information and communication technology (ICT) development, and nurturing local talent to build a sustainable digital economy.

Hou brings extensive experience to the role, having previously served as President of the Northern Africa Carrier Business Group. Boasting over 20 years at Huawei, he has held several leadership positions across the pre-sales, marketing, solution sales, and service support departments. His diverse expertise positions him well to lead Huawei's digital transformation initiatives across Egypt's public and private sectors.

Commenting on his new role, Hou said, "I am honored to take on the role of CEO at Huawei Egypt, especially as we celebrate 25 years of groundbreaking innovation and partnership in the country. Over the past quarter-century, Huawei has been a contributor in shaping Egypt's digital landscape, and I am committed to building on this foundation to drive even greater progress."

He added, "Egypt remains a key market for Huawei, and I look forward to leading our efforts in accelerating its digital transformation. Huawei is committed to supporting Egypt's ICT ecosystem, nurturing local talent, and delivering cutting-edge solutions that empower businesses and communities alike. We will continue to drive sustainable growth and innovation, adapting to the evolving needs of our partners and customers, and working towards a fully connected and digital Egypt."

Huawei has been a key player in the country's ICT sector, building a 25-year legacy of technological advancement and industry leadership. The company is dedicated to providing innovative solutions, promoting sustainability, and investing in the local digital economy to ensure long-term growth and success.

TELECOM Review AFRICA

# Africa's Private Mobile Network Revenue to Rise Amid 5G Deployment Challenges

As the global push for digital transformation intensifies, private mobile networks (PMNs) are becoming central to enterprise connectivity strategies. Market analysts predict that global revenues from private networks will double by 2028, reflecting surging demand across sectors such as manufacturing, energy, and logistics. This growth, however, is tempered by ongoing challenges in 5G deployment, which remain a key hurdle for full-scale adoption.

## Private Mobile Networks: Driving the Future of Industry

Private mobile networks—dedicated wireless infrastructures built for specific enterprises—are increasingly seen as vital for supporting mission-critical operations. They offer unmatched advantages in terms of security, control, reliability, and customization when compared to public networks. In industries where latency and data integrity are paramount, such as in smart factories or autonomous transport hubs, private mobile networks provide the robust framework needed to support real-time communications and automation.

The rise of Industry 4.0 and the proliferation of connected devices are fueling this momentum. Enterprises are no longer content

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with basic connectivity; they seek comprehensive digital ecosystems. Private LTE and 5G networks are supporting smart applications like predictive maintenance, automated production lines, and immersive training environments.

### PMNs in Africa: A Market on the Rise

The Middle East & Africa (MEA) PMN market, valued at USD 90.47 million in 2022, is projected to reach USD 1,152.29 million by 2030, growing at a compound annual growth rate (CAGR) of 37.4%.

Key countries driving this growth include Saudi Arabia, the UAE, and South Africa, with the UAE holding the largest market share. In addition, regionally, LTE has already been launched by 201 operators across 66 countries, including Guinea, Mozambique, and Yemen. Globally, over 1,489 customers are deploying private mobile networks, with 32 African companies, mostly in South Africa, Nigeria, and Angola, accounting for 21% of global demand. Currently, more than 50 vendors supply equipment for LTE or 5G-based private networks.

### 5G: Opportunity and Obstacle

Heavy investment in 5G infrastructure and rising enterprise demand are propelling the adoption of private mobile networks, particularly in manufacturing, which led all of the aforementioned sectors in terms of market share.

While 5G promises to revolutionize connectivity, its rollout has been slower than expected in many regions. Infrastructure costs remain high, particularly in remote or industrial zones where deploying small cells and backhaul networks can be capital-intensive. Furthermore, a shortage of specialized skills and the complexity of integrating 5G into existing IT and OT (operational technology) systems are delaying adoption.

Regulatory inconsistencies and concerns over data privacy and cybersecurity also contribute to the cautious approach many enterprises are taking. As a result, many organizations are deploying private LTE as a stepping stone to 5G, ensuring immediate benefits while keeping future migration in sight.

### Collaboration as a Catalyst

The market's expansion is being powered by strategic partnerships between telecom operators, network equipment providers, and technology integrators.

In 2024, MTN South Africa broke new ground by launching Africa's first 5.5G practice, signaling a leap in advanced private mobile network capabilities. Similarly, Egypt's Ministry of Communications and Information Technology (MCIT), via the National Telecommunications Regulatory Authority (NTRA), awarded second-phase 5G licenses to Vodafone Egypt, Orange Egypt, and e& Egypt, paving the way for more sophisticated private mobile network infrastructure.

Simultaneously, e& and Vodafone have deepened their partnership across the EMEA region, emphasizing shared goals around private mobile network expansion. This aligns with industry voices such as Vodafone Oman's CTO, Stelios Savvides, who forecast the growing importance of mobile private networks, particularly in sectors like oil and gas, to boost efficiency and resilience, during the 18th edition of the Telecom Review Leaders' Summit.

Cloud providers such as Amazon Web Services (AWS), Microsoft Azure, and Google Cloud are also entering the ecosystem, offering services that combine cloud infrastructure with localized processing and artificial intelligence (AI). These end-to-end solutions simplify deployment and reduce the barrier to entry for enterprises, especially those without in-house telecom expertise.

### Real-World Use Cases

Several sectors are already seeing tangible benefits from private mobile networks:

- **Manufacturing:** Factories are leveraging private networks for real-time equipment monitoring, robotics, and quality control systems.

- **Logistics:** Private connectivity enables accurate asset tracking, automated forklifts, and enhanced warehouse coordination.

- **Healthcare:** Hospitals are adopting private networks to support remote diagnostics, connected medical devices, and smart infrastructure.

- **Energy and Mining:** Harsh environments with limited public coverage benefit from private networks that support IoT sensors and autonomous operations. For example, MTN Business has been implementing 5G PMNs in African mining operations, enabling real-time monitoring, automation, and enhanced safety.

These examples underscore the growing relevance of private networks as foundational to digital innovation across a range of environments.

### Looking Ahead

Despite the challenges associated with the 5G rollout, the outlook for private mobile networks remains highly optimistic. The forecasted doubling of global revenues by 2028 highlights not just increased adoption, but deeper reliance on these networks for driving digital strategies

Unlocking this potential will require collective action across the ecosystem. Regulators must continue to free up spectrum and support innovation-friendly policies. Telecom vendors need to invest in simplified, scalable solutions and enterprises must focus on building the skills and infrastructure necessary to take full advantage of what private 5G can offer.

As the world transitions into a more connected, automated future, private mobile networks stand at the intersection of innovation and infrastructure. The next few years will be critical in defining how these networks evolve—and how quickly enterprises can realize their transformative promise. **TR**

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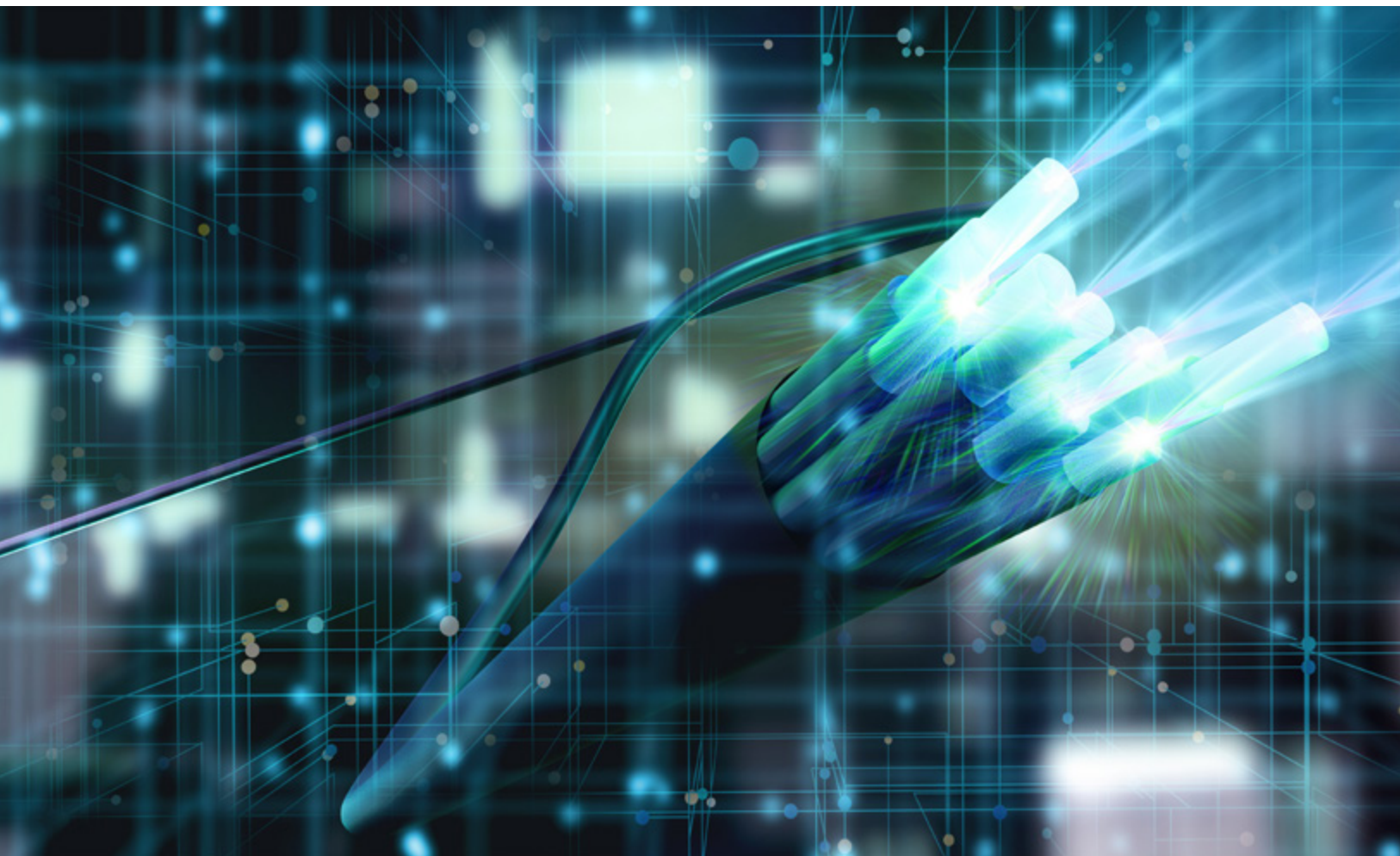
# The Impact of Fiber Optic Networks on Africa's Digital Landscape

Africa is undergoing a digital revolution, and at the heart of this transformation lies fiber optic technology. Once considered a luxury, fiber optic infrastructure has become an essential component of Africa's modern telecommunications landscape.

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From boosting internet speeds and expanding connectivity to enabling economic growth and digital inclusion, the impact of fiber optic networks on Africa is both profound and far-reaching.

## Building A Digital Africa

In Africa, where vast distances and challenging geographies have long hindered infrastructure development, fiber offers a resilient and high-capacity alternative to legacy systems. Compared to copper lines or satellite connections, fiber provides faster, more reliable data transmission with minimal latency. This is critical in a region where broadband penetration and digital services are increasingly tied to socioeconomic development.

Undersea cable systems such as SEACOM, EASSy, and the more recent 2Africa cable are connecting African countries to the global internet. These cables are laying the groundwork for more extensive inland fiber deployments that stretch across countries and regions. National broadband networks in Kenya, Nigeria, South Africa, Egypt, and Ethiopia are expanding rapidly, with state-owned operators and private players investing in metro and long-haul fiber networks.

## Transforming Urban Connectivity

In urban centers across Africa, fiber has played a transformative role. Cities like Nairobi, Lagos, Johannesburg, and Kigali are seeing increasing demand for high-speed connectivity from both residential and commercial users. Fiber-to-the-Home (FTTH) services are becoming more accessible, allowing households to enjoy faster internet speeds and more stable connections for streaming, remote work, online education, and e-commerce.

Telecom operators are racing to meet this demand, with companies like Openserve and MTN deploying last-mile fiber solutions. In tandem, in Kenya, the ICT Authority convened a stakeholder engagement meeting under the Kenya Digital Economy Acceleration Project (KDEAP) to advance the country's fiber connectivity. In Ghana, the Ghana Grid Company Ltd. (GRIDCo) partnered with broadband provider, CSquared, to lease excess fiber capacity to mobile network operators (MNOs) and internet service providers (ISPs), optimizing the use of existing infrastructure.

Meanwhile, in South Africa, enterprise connectivity provider, Seacom, strengthened its national high-capacity fiber network by rolling out new services along the N1 corridor, linking Johannesburg, Bloemfontein, and Cape Town, significantly boosting broadband performance across the country. The result has been a significant leap in service quality and speed, with gigabit-level broadband no longer a distant dream in many African cities.

For businesses, especially small and medium-sized enterprises (SMEs) and startups in tech hubs, fiber connectivity is a game-changer.

Reliable internet is essential for cloud computing, digital payments, and participation in global markets. It also attracts foreign investment into tech ecosystems that thrive on connectivity and scalability.

## Bridging the Rural Divide

While urban areas benefit from robust fiber deployments, the rural connectivity challenge remains. According to the latest Global Economy data, approximately 51.28% of Africa's population lives in rural areas, many of which remain disconnected or underserved. Fiber has the potential to change this, but the economics of rural deployments can be difficult. High deployment costs, sparse populations, and difficult terrain make it less attractive for private investment.

However, innovative solutions and public-private partnerships are helping to close the gap. Governments are also investing in national fiber that extends to rural districts. In South Africa, the Broadband Infraco SOC aims to deliver wholesale fiber connectivity to underserved areas. Similarly, Kenya's

National Optic Fibre Backbone Infrastructure (NOFBI) project has connected over 50 counties.

In some cases, hybrid models are emerging, where fiber backhaul connects to wireless technologies like 4G/5G or Wi-Fi to achieve last-mile delivery. This approach helps reduce costs while still leveraging fiber's high capacity.

### Catalyzing Economic Growth and Digital Inclusion

Fiber optic networks enable broader economic transformation. Access to high-speed broadband drives job creation, enhances productivity, and fosters innovation. According to the World Bank, a 10% increase in broadband penetration in low- and middle-income countries can lead to a 1.38% increase in gross domestic product (GDP) growth.

In Africa, this impact is particularly significant. Fiber connectivity supports the growth of digital services such as e-health, e-learning, mobile banking, and e-government. These services, in turn, improve the quality of life, reduce inequalities, and drive inclusive growth. In Rwanda, the government has invested heavily in fiber infrastructure. As a result, Kigali has emerged as a regional digital hub, attracting tech startups. The Smart Africa initiative, of which Rwanda is a founding member, aims to replicate this model across the continent.

Moreover, fiber networks support digital financial services like M-PESA and its various clones across the continent, helping millions of unbanked individuals access formal financial systems. This is especially vital in countries like Kenya, Ghana, and Tanzania, where mobile money adoption is high and contributes directly to economic inclusion. According to the GSM Association's (GSMA) State of the Industry Report on Mobile Money 2025, there are now 1.1 billion registered mobile money accounts in Sub-Saharan Africa. The continent now drives around 74% of all global mobile money transactions, processing over 81 billion transactions worth USD 1.1 trillion last year, marking a 22% increase in transaction volume and a 15% rise in value compared to the previous year.

### Enabling the 4IR in Africa

The Fourth Industrial Revolution (4IR), driven by technologies such as artificial intelligence (AI), big data, the Internet of Things (IoT), and blockchain, requires robust digital infrastructure. Without high-capacity, low-latency networks, these technologies cannot thrive. Fiber optic networks provide the necessary foundation for smart grids, health services, precision agriculture, and intelligent transportation systems.

In countries like Egypt and Nigeria, where smart city projects are gaining momentum, fiber connectivity is central. In Egypt, projects like the New Administrative Capital aim to alleviate Cairo's congestion by accommodating 6.5 million residents. Additionally, developments such as New Alamein, New Mansoura, and New Luxor are underway. In Nigeria, Eko Atlantic City exemplifies the smart city vision with its self-sufficient infrastructure and eco-friendly design. Other projects, including Abuja Centenary City and Lagos Smart City, are also progressing. From enabling real-time traffic management to supporting remote diagnostics in healthcare, fiber provides the infrastructure for digital innovation.

Fiber also plays a key role in data center development across Africa. Notably, 56 new data centers are expected to be launched across countries like Nigeria, South Africa, Egypt, and Kenya by the end of 2025, adding approximately 400 MW of power capacity. Morocco leads in upcoming power capacity, accounting for 35% of the total. As more countries build local data centers to meet data sovereignty requirements and reduce latency, reliable fiber connectivity is essential. Companies like Africa Data Centres and Teraco rely on fiber connections to link customers with cloud providers and international internet exchange points (IXPs).

### The Challenges Ahead

Despite these gains, several challenges still impede the full potential of fiber optic networks in Africa. Regulatory hurdles, limited investment in some regions, and the vandalism of fiber cables remain major obstacles. Additionally, many African countries still lack comprehensive national broadband strategies or face coordination challenges between public and private sector players.

Affordability is also a key issue. Even where fiber is available, high costs can limit access for low-income households and small businesses. Policies that encourage open access and infrastructure sharing can help reduce these costs and improve competition.

Looking ahead, the expansion of fiber optic networks across Africa is likely to accelerate. As the demand for bandwidth-intensive applications increases, fiber will remain essential. To unlock its full potential, telecom operators and infrastructure providers must continue to innovate and find cost-effective ways to deploy fiber in hard-to-reach areas.

Ultimately, fiber optic networks are not just a technological upgrade; they are a pathway to a more connected, inclusive, and prosperous Africa. As the continent moves toward realizing its digital ambitions, fiber will continue to illuminate the way. ▥
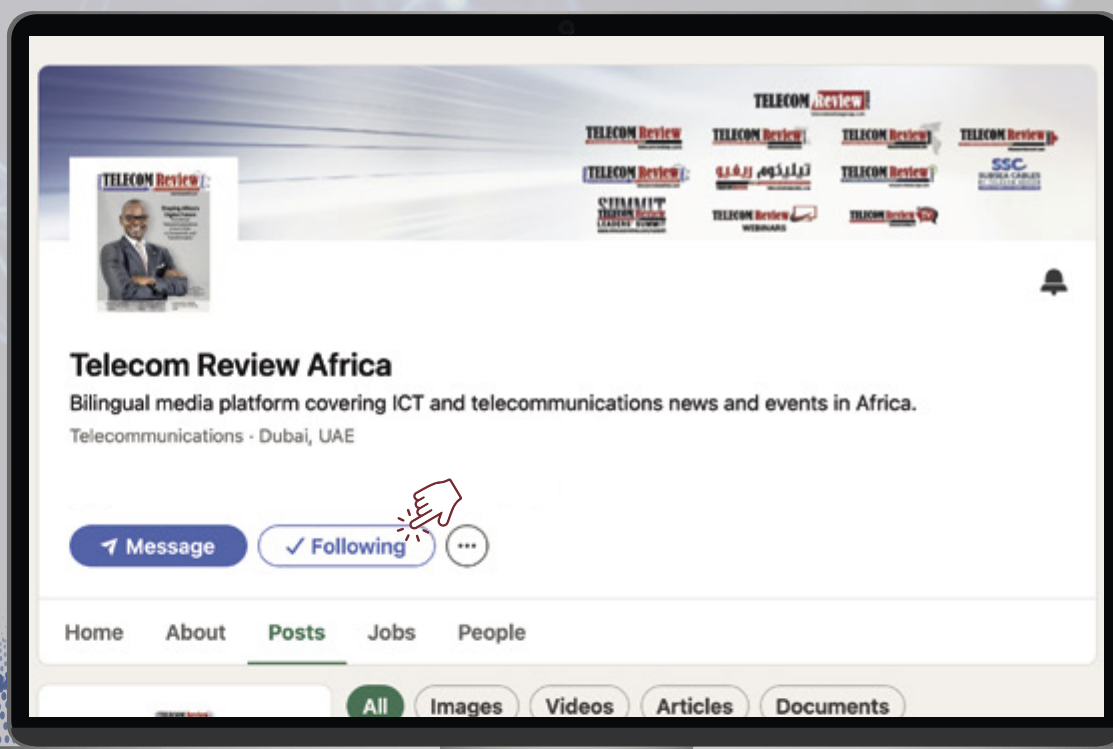
# The Synergy Between 5G and Cellular IoT: Unlocking Connectivity Potential

**As the digital landscape evolves, the integration of 5G technology and cellular Internet of Things (IoT) is shaping the future of connectivity. This powerful synergy is not merely an incremental upgrade; it is a transformative force driving a new era of innovation across industries.**

From smart cities and autonomous vehicles (AVs) to industrial automation and remote healthcare, the fusion of 5G and Cellular IoT is unlocking unprecedented opportunities for real-time, scalable, and ultra-reliable connectivity.

According to the GSM Association (GSMA), Africa is expected to reach over 200 million 5G connections by 2030, while the continent boasted 26.1 million cellular IoT connections in 2023. Further forecasts suggest that this number will grow to 35.6 million by 2030, increasing by a compound annual growth rate (CAGR) of 4.5%.

Interestingly, Telecom Review Middle East reported that, globally, the cellular IoT market is projected to reach USD 28.7 billion by 2028, climbing from the recorded USD 16.4 billion in 2024, demonstrating the vast potential of the technology. Although infrastructure challenges and affordability issues remain, initiatives like the African Union's Digital Transformation Strategy 2020—2030 and public-private partnerships are accelerating 5G and cellular IoT adoption across the continent.

### 5G: The Catalyst for IoT Growth

5G, the fifth generation of mobile networks, offers three major improvements over its predecessors: enhanced mobile broadband (eMBB), ultra-reliable low-latency communication (URLLC), and massive machine-type communications (mMTC). These pillars directly support the growth of cellular IoT, enabling billions of devices to be connected simultaneously with faster speeds and reduced latency.

Across Africa, telecom operators are supporting the transition to 5G. Ethio telecom is actively expanding its 5G footprint with recent rollouts in Jimma and a new regional office in Bale Robe. In North Africa, Morocco is preparing for its own 5G leap, with Maroc Telecom and Inwi accelerating deployments through strategic partnerships. Similarly, Egypt is targeting a 2025 launch, banking on 5G to boost both connectivity and foreign investment. Tunisia's three leading operators—Ooredoo, Orange, and Tunisie Télécom—have joined forces to bring 5G nationwide. Meanwhile, MTN South Africa is fast-tracking its 3G shutdown to pave the way for more efficient 5G infrastructure.

Cellular IoT encompasses devices that use mobile networks to send and receive data. It includes a range of technologies such as NB-IoT (narrowband IoT), LTE-M

(long-term evolution for machines), and now, 5G NR (new radio). These standards ensure that devices can remain connected, secure, and efficient, regardless of scale or location.

### Enabling a Hyperconnected World

5G's ability to handle a higher density of connected devices is critical for scaling IoT deployments. In smart cities, for instance, everything from traffic lights and public transport systems to energy grids and waste management can be interconnected through cellular IoT. Real-time data collection and processing improve efficiency, safety, and sustainability.

Cities such as Cape Town are already leveraging telecom-backed solutions to optimize grid operations, while Senegal is transforming its urban transport infrastructure through intelligent systems. Nokia's IoT services, tailored for smart cities, further exemplify how these technologies are being commercialized to serve the public good.

In manufacturing, also known as Industry 4.0, cellular IoT powered by 5G enables seamless communication between machines, robots, and sensors. The ultra-low latency ensures that production lines operate with precision and minimal downtime. Through 5G and IoT, predictive maintenance can be implemented. This real-time monitoring reduces the risk of unexpected failures and optimizes resource use.

Partnerships such as those between the African Development Bank (AfDB) and the U.S. Trade and Development Agency (USTDA) illustrate the growing interest in investing in such digital infrastructure. Meanwhile, Sofrecom is enhancing public services by digitizing payments, showing how cellular IoT is also redefining citizen interactions with governments.

### Transforming Sectors Across the Board

Healthcare is another sector witnessing a transformation thanks to the convergence of 5G and IoT. Remote patient monitoring devices can transmit data in real time to doctors, enabling faster diagnoses and treatment. Emergency services can also benefit from ultra-reliable communications,

facilitating quicker response times and better coordination during critical situations.

Safaricom's partnership with Kenya's Health Ministry to digitize healthcare payments, along with Botswana's integration of 4G LTE and IoT technologies, showcases how telcos are enabling more efficient, connected, and accessible healthcare systems across Africa. Additionally, MTN South Africa has partnered with Quro Medical to provide telemedicine services. Patients can wear biosensors that monitor their vital signs, transmitting data via MTN's IoT network to healthcare professionals, enabling remote care and reducing hospital visits. Moreover, Vodacom's subsidiary, Mezzanine, developed the mVacciNation platform, an electronic health record system supporting vaccination coverage.

In the agricultural sector, cellular IoT sensors can monitor soil conditions, moisture levels, and livestock health. This not only increases yields but also supports more sustainable farming practices by reducing waste and conserving resources. Vodacom's MyFarmWeb platform collects data from IoT sensors across farms, assisting farmers in making informed decisions regarding planting, irrigation, and pest control. Over 6,500 farms across sub-Saharan Africa utilize this platform. Meanwhile, MTN, in partnership with Aotoso Technology, introduced connected collars for cattle in Sudan. These collars, equipped with SIM cards, help farmers monitor their cattle's health and location, aiding in feeding strategies and theft prevention.

Autonomous vehicles (perhaps the most high-profile sector) require ultra-low latency and fast data exchange to communicate with other vehicles, road infrastructure, and cloud systems. 5G ensures the fast, reliable connectivity needed to support vehicle-to-everything (V2X) communications, making roads safer and traffic more efficient. While the opportunity is present, autonomous vehicles are not yet widely deployed in Africa.

### Challenges and Considerations

Despite its promise, the convergence of

5G and cellular IoT poses challenges. Network coverage in rural or hard-to-reach areas remains limited, potentially hindering widespread deployment. Additionally, interoperability and standardization across regions and device manufacturers continue to be barriers.

Security is also a major concern. With billions of devices connected, each one becomes a potential entry point for cyber threats. Network slicing and end-to-end encryption are emerging as important tools to safeguard data and maintain trust

Furthermore, energy consumption and sustainability are critical considerations. While 5G networks are more energy-efficient per bit transmitted, the sheer scale of IoT connectivity could increase overall power demands. Innovations in low-power chipsets and network optimization are helping address this issue.

Commenting on the convergence of 5G and IoT in an exclusive interview with Telecom Review, Aji Ed, CTO Mobile Networks MEA, Nokia, noted that, "Different types of services have varied requirements in terms of bandwidth, speed, and latency. For example, applications like gaming require high bandwidth and low latency, whereas many IoT services (factory automation, assisted driving etc.) do not necessarily need high bandwidth, but low latency is important."

### The Road Ahead

The synergy between 5G and cellular IoT holds the key to a truly connected future. As infrastructure matures and devices become smarter, the combined impact of these technologies will redefine how businesses operate, how cities function, and how people live and interact with the world around them.

Governments, telecom operators, and technology providers must work together to invest in infrastructure, develop inclusive policies, and ensure secure, reliable access. Only through such collaboration can we fully unlock the transformative potential of 5G and cellular IoT. **TR**

## World Telecommunication Day Shaping Industries

Telecom Review will host a virtual panel to explore the evolving dynamics of the telecommunications industry, aligning with the World Telecommunication and Information Society Day (WTISD) 2025 theme: Gender Equality in Digital Transformation.

**Place:** Virtual



**15 MAY**

## ETEX 2025

ETEX 2025, Ethiopia's flagship technology expo, supports the Digital Ethiopia 2025 Strategy by showcasing advancements in cybersecurity, artificial intelligence, smart cities, fintech, and tech education, positioning the country as a rising regional digital leader.

**Place:** Addis International Convention Center



**16-18 MAY**

## ITW Africa 2025

Join ITW Africa 2025 from 9 to 11 September 2025 in Nairobi, where top leaders in telecom, cloud, data centers, finance, and satellite come together to network, showcase innovations, and drive investment in Africa's digital future.

**Place:** Radisson Blu, Upper Hill, Nairobi, Kenya



**9-11 SEPTEMBER**

## Submarine Networks World

Submarine Networks World (SNW) is the leading global event for the subsea communications industry, featuring key discussions on trends, technologies, and infrastructure, with ample networking opportunities to drive collaboration and shape the future of global connectivity.

**Place:** Sands Expo and Convention Centre, Singapore



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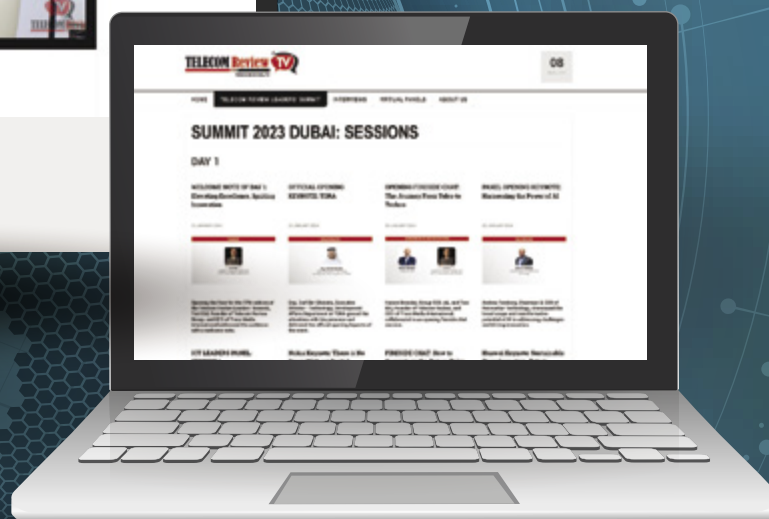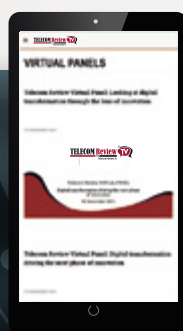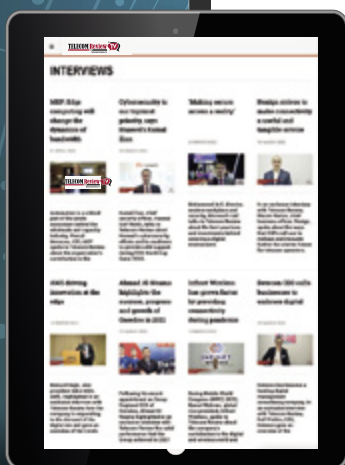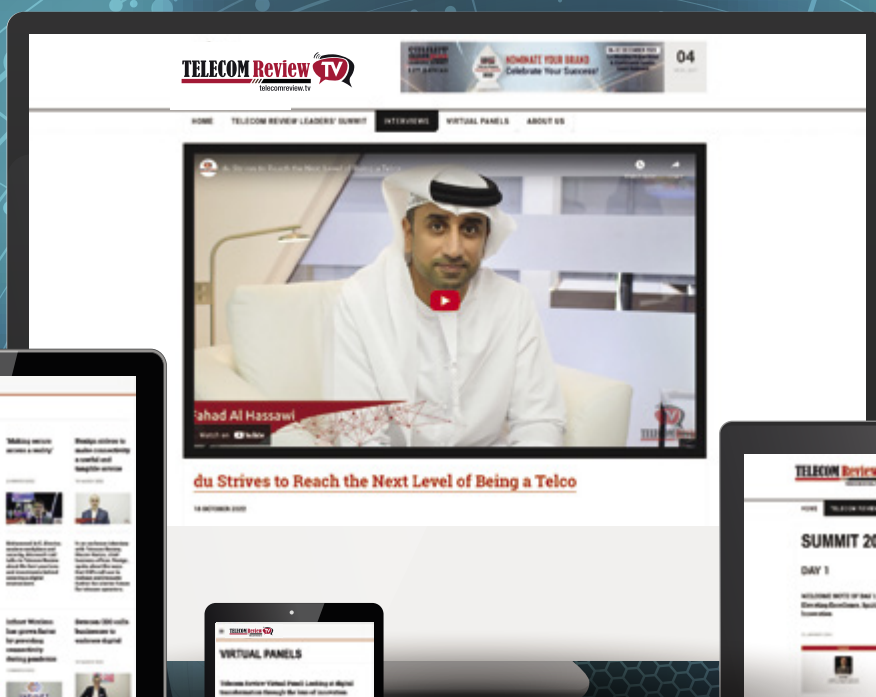
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