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KADIUM

ARPCE seizes illegal Starlink equipment

The Post and Electronic Communications Regulatory Agency (ARPCE), in collaboration with the National Police services, has seized Starlink equipment installed without its authorization in a forest approximately 70km from Sembé.

"This installation is illegal, because the satellite operator Starlink did not obtain from ARPCE the authorization required to operate the Congolese space segment, thus violating current legislation," said Benjamin Mouandza, director of electronic communications networks and services at ARPCE. The law requires any operator to obtain authorisation from the regulator before providing satellite services, operating space segments or occupying the orbital position assigned to Congo.

"This requirement is reinforced by the obligation for operators wishing to deploy satellite networks in Congo to carry out frequency coordination beforehand," said Mouandza. This is a measure which aims to protect Congolese terrestrial networks operating on the same frequency bands against possible harmful interference.



Econet Wireless Zimbabwe targets 550 new core sites

Econet Wireless Zimbabwe plans to roll out 550 new core telecom sites across Zimbabwe in the coming months, reported James Myers, chairman of the board of directors.

For the deployment of new sites, Econet will rely on the spectrum that the government has allocated to it in the 700MHz frequency band. The company believes that this new resource will also allow it to expand the coverage of existing base stations to serve customers who are on the outskirts of the current coverage boundary.

The initiative is part of the broader framework of Econet's network modernization program. The company has already upgraded more than 1,012 sites with high-capacity 4G base stations and added more than 50 new base station sites.

"The company continues to experience sustained growth in demand for its products and services, shaped by evolving customer needs. We will continue to invest in our network infrastructure to meet customer demands and keep up with global trends, in line with our vision of a digitally connected future that leaves no Zimbabwean behind," said Myers.

The expansion of Econet's network coverage is expected to enable it to reach thousands more people, increase its market share and strengthen its market leadership position.

Tanzania's schools to benefit from SmartWASOMI initiative

Airtel, UNICEF and the Government of Tanzania's Ministry of Education, have launched the SmartWASOMI initiative to accelerate the rollout of digital learning by providing free internet connectivity to schools in the country.

"This partnership is a major step forward for Tanzania. It aligns with our national vision of providing digital infrastructure for every child. I would like to thank Airtel and UNICEF for their support in making digital content accessible to children in urban and rural areas," said Honourable Kassim Majaliwa, prime minister, United Republic of Tanzania.

In 2022, Tanzania pledged to revolutionize education through digital initiatives at the Transforming Education Summit during the UN General Assembly. This commitment is reflected in the new education curriculum, which embraces digital literacy among students and teachers. Further to this effort, the Government has distributed 300,000 tablets to schools, demonstrating its dedication to advancing digital education.

"We are working closely with educational authorities, teachers, and local communities to ensure the successful implementation of this initiative. Our vision for SmartWASOMI is rooted in the belief that education is a fundamental pillar for socioeconomic development. We are excited about this project's potential to transform education in Tanzania, empowering the next generation of leaders and innovators. Together, we can create a more connected, informed, and empowered Tanzania, where every student can reach their full potential," said Dinesh Balsingh, managing director, Airtel Tanzania.

The SmartWASOMI initiative will leverage existing and new digital infrastructure to provide high-speed internet connectivity to public secondary schools through a national digital teaching and learning platform. The pilot phase of the project has already made significant strides, reaching 50 secondary schools across Zanzibar, Dodoma, and Mbeya. The digital learning platforms will deliver audio lessons and provide teachers and school management with teaching guides and content.

"Digital learning is a powerful tool that can transform education in Tanzania especially for excluded children and communities. Through

SmartWASOMI public-private the partnership initiative the Government of Tanzania, UNICEF and Airtel are collaborating to ensure that teachers have access to modern learning methods and that no student, and no child is left behind. UNICEF will continue to work with the Government and partners like Airtel to develop an evidence-based digital learning strategy that supports the country's efforts to provide 21st-century education," said Elke Wisch, UNICEF Representative to Tanzania

The SmartWASOMI initiative will run for five years and ensure digital education access to more than 3,000 schools across Tanzania. This launch is part of a broader global partnership between Airtel Africa and UNICEF aimed at accelerating digital learning in 13 countries across the African continent.



NIDIF greenlights Namibia **Space Port**

Fos Capital, manager of the Namihia Infrastructure Development and Investment Fund (NIDIF), has given the green light for the Namibia Space Port project.

The project will be spearheaded by Q-KON Namibia and will mark a significant milestone for the nation into the world of satellite communications

"The Namibia Space Port represents a monumental stride towards harnessing the vast potential of space technology for the growth of Namibia and Africa's communication capabilities." said Namibia's minister of information and communications technology, Honourable Emma Theofelus. "The project shows Namibia's commitment to space exploration, innovation, and sustainable development. With a strategic focus on collaboration, capacity building, and technological advancement, the Namibia Space Port will make our country a worthy player in the African space arena."

With the development of the Namibia Space Port, Q-KON Namibia is set to become а significant player in the rapidly growing low Earth orbit (LEO) industry.

"We are honoured to lead this transformative initiative that will not only elevate Namibia's technological prowess but also play role in the growth of the LEO industry in sub-Saharan Africa," said Dawie de Wet, Group CEO of Q-KON.

The project will also serve as an important hub for satellite communication networks. offering ground infrastructure and cutting-edge services to global satellite operators.

Initially the new space port will provide select services including ground gateway terminal hosting; Earth observation downlink services; tracking, telemetry, and control (TT&C).

Congo launches public administration connectivity project

Congolese Minister of Posts, to the Sotracom. Telecommunications and the Digital Economy, Léon Juste Ibombo, has launched work to connect public administrations to high-speed internet across the country.

The work is expected to last six months and cost 3.2 million euros and has been entrusted

An EchoStar Company

The project will consist of the installation of WiFi access points and the implementation of digital services. In the Civil Service, the minister expects the improvement of the connectivity of civil status centres, the strengthening of the integrated civil status system, effective synchronization and

better management of civil data.

"Similarly, Health and Justice will see increased connectivity of civil registration centres, hospitals, courts, which will ensure fluid and transparent management of data," said Juste Ibombo.

The launch comes two months after the deployment of broadband in Congolese public universities.

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ADB and Intel to transform Africa's digital ecosystem

The African Development Bank and Intel have formalized their cooperation to transform the African digital ecosystem. The partners aim to equip three million Africans and 30,000 civil servants with artificial intelligence (AI) skills.

The agreement will help create a critical mass of Africans mastering the skills of the Fourth Industrial Revolution (4IR) to accelerate growth and productivity and to position Africans as contributors, and not simple consumers, of the 4IR. The training will address socio-economic challenges and boost productivity in key sectors for growth such as agriculture, health

and education, thereby disrupting traditional growth cycles.

"Intel looks forward to continuing its collaboration with African governments to make advanced technologies like AI accessible to all, breaking down barriers of geography, gender and ethnicity, and enabling widespread participation to the digital economy," said Bienvenu Agbokponto Soglo, director of government affairs for Africa and Intel IGA CTO Liaison.

The partnership will also help African countries, regional economic communities and continental organizations develop harmonized policy and regulatory frameworks on AI, 5G, WiFi 6E, data and cloud computing.

"With advances in digital technology, our world is changing rapidly, and so are our youth, which is expected to reach 830 million by 2050. To develop skills at scale and at the speed needed, we need cooperation from all." said Ousmane Fall. Acting Director of Industrial and Commercial Development at the African Development Bank. "The Bank is pleased to collaborate with Intel to work towards achieving this shared commitment. Together, we are shaping Africa's digital future and empowering our youth."

CellC modernises with Amdocs

CellC has deployed the Amdocs cloudnative Helix Service Assurance Suite to modernise its service assurance.

This collaboration marks a significant step in transforming CellC's fault and performance management, driving streamlined assurance processes with the power of machine learning (AI/ML).

With the Amdocs Helix Service Assurance Suite, CellC will be able to enhance customer satisfaction through improved service quality. The cloud-native solution, which follows Amdocs' acquisition of TEOCO's service assurance business last year, will empower CellC to improve root cause analysis (RCA) with AI/MLpowered fault management, monitor real-time network performance and notably reduce the Mean-Time-To-Repair (MTTR) for service-impacting issues. By meeting customer SLA commitments more effectively, CellC is positioned to deliver an elevated customer experience, fostering increased satisfaction and loyalty.

"In Amdocs we found the ideal partner to modernize our service assurance capabilities," said Derek Morgan, managing executive for information technology at CellC. "By leveraging the Amdocs Helix Service Assurance Suite, we are confident in our ability to enhance service quality, reduce downtime, and ultimately deliver an unparalleled experience to our valued customers."

"As networks become increasingly complex, service providers are simultaneously expected to deliver higher reliability and improved performance to their customers," said Anthony Goonetilleke, group president of technology and head of strategy at Amdocs. "The Helix Service Assurance Suite ensures that CellC will be able to predict, identify and quickly resolve service-impacting problems and network outages, improving customer experience and ultimately delivering best-inclass service. With Helix Service Assurance Suite integrated as part of Amdocs Intelligent Networking Suite, we enable service providers to enhance operational capabilities on their dynamic environments while launching advanced new services."

Airtel Telesonic activates first phase of 2Africa cable with ASN

Airtel Africa has activated the initial phase of the 2Africa submarine cable system by Airtel Telesonic, its wholesale fibre optic arm.

This stage links Kenya, Tanzania and South Africa. It was carried out in partnership with the company Alcatel Submarine Networks (ASN) which was responsible for installing the infrastructure.

"This project highlights not only our commitment to investing in cutting-edge infrastructure, but also our desire to equip communities with the tools they need to thrive in the digital age. This is a significant milestone that highlights the power of collaboration and innovation to bring the world's longest submarine cable system to Africa," said Prasanta Das Sarma, managing director, Airtel Telesonic.

The 45,000km 2Africa system is expected to connect 33 countries in Africa, Europe and Asia. With a rated capacity of up to 180Tbps, the infrastructure is expected to provide enhanced connectivity to more than three billion people. In Africa, the cable is shared into two branches 2Africa West and 2Africa East which respectively serve the western and eastern parts of the continent.

The activation of this first phase of 2Africa should make it possible to strengthen the high-speed telecoms infrastructure along its route. This should allow partner telecom operators to improve the capacity and quality of their respective networks, but also resilience to recurring outages on other cables serving the region. This activation is also expected to strengthen Airtel Africa's position in the African wholesale fibre market as part of the diversification of its activities and revenue sources.

Vodacom to invest 400 million rand in Free State and Northern Cape

Vodacom plans to invest 400 million rand in its operations in the Free State and Northern Cape provinces during the financial year 2024-2025.

The company intends to improve the capacity and resilience of its network while expanding its coverage particularly in deep rural areas. It plans to spend R250 million on radio access network projects, while R150 million is earmarked for transmission funding, which includes the deployment of microwave and fibre optics for capacity as well as upgrades.

The investment brings Vodacom's investment over the past three years to approximately R1.2 billion. This is part of the operator's long-term vision to expand its telecoms network across South Africa. In 2023, the company announced that it will invest R60 billion in the country over five years.

"Our goal is to give our customers access to a superior network, which we are doing by adding new sites and modernising our network. We intend to use this network rollout to help every community we serve become part of the digital age and reap the benefits of digitalisation," said Evah Mthimunye, managing director, Vodacom Central Region.



Mobile internet gender gap returns to prepandemic levels in LMICs

Over 1.5 billion women in low-and middle-income countries (LMICs) across the world are now using mobile internet as more women adopt connectivity faster than men, a GSMA Mobile report showed.

In the latest Mobile Gender Gap Report, the GSMA revealed that the gender gap in mobile adoption narrowed among LMICs, from 19% in 2022 to 15% in 2023 — bringing the gap back to its pre-pandemic level.

Notable changes in India and Indonesia drove this year's shift where women's adoption rate exceeded men's. While in sub-Saharan Africa, the gender gap narrowed slightly for the first time in five years.

India, one of the world's largest mobile markets, saw a massive rise of 37% among women as adoption among men remains stable, cutting the gap from 40% to 30%. In Indonesia, the rate of adoption from women exceeded men with the gap now at 8% from 15%. The report also showed that there are now 1.4 billion (60%) women who own a smartphone device across LMICs.

In 2023, the gender gap in smartphone ownership narrowed slightly from 15% to 13%, driven primarily by South Asia which cut the gap from 41% to 34%.

"Once someone owns a smartphone, they are considerably more likely to adopt mobile internet and use it regularly which can unlock myriad socio-economic benefits. However, once women are online, they often face barriers to using mobile internet as frequently or for the same range of use cases as men," said the report.

According to GSMA, Addressing the mobile gender gap holds the potential to deliver significant social and commercial benefits for individuals, societies, and economies. Connectivity is also critical to achieving the Sustainable Development Goals (SDGs) including those related to health, education, and financial inclusion. It estimates that closing the gender gap in mobile ownership and usage across LMICs could deliver an additional \$230b in revenue to the mobile industry over an eight-year period.

"Gender gaps stem from complex social, economic, and cultural factors, that require collective action from a broad set of organisations. We are calling on stakeholders including governments, MNOs and development organisations to work together to ensure digital and financial inclusion for women everywhere," said Claire Sibthorpe, GSMA head of digital inclusion.

Telecom Namibia and Sparkle to provision Equiano cable capacity

Sparkle and Telecom Namibia have signed an agreement for provision of capacity services on the Equiano subsea cable connecting Portugal to South Africa, with the common objective of accelerating Namibia's digital transformation journey.

In an exclusive agreement, Sparkle will provide Telecom Namibia with capacity services on the Equiano submarine cable, thus ensuring a diversified, low latency route between Africa and supporting Europe. Namibia's development the digital and growing demand for data from neighboring countries.

This partnership offers а diversified, high-capacity route for data transmission, reducing latency and enhancing network resilience, thus ensuring uninterrupted service continuity also in the event of outages on the SAT-3 and WACS cables. The resulting highspeed connectivity will empower businesses and government institutions to accelerate digital transformation initiatives. fostering economic growth and propelling Namibia towards a knowledge-based economy.

"We are thrilled to partner with Sparkle to leverage the Equiano



cable's advanced capabilities. This strategic alliance underscores our unwavering commitment to delivering exceptional connectivity solutions to our customers and fostering Namibia's digital transformation. The Equiano cable's high-speed, low-latency connection will serve as a catalyst for innovation and economic growth across the nation," said Telecom Namibia CEO Stanley Shanapinda.

"We are very pleased for this agreement with Telecom Namibia which confirms our shared vision on the importance of international connectivity to support the digital growth of the country," said Enrico Bagnasco, CEO of Sparkle. "We are also proud to see how our infrastructure on Equiano is proving crucial for the evolution of the telecommunications sector in the African continent."

Madagascan telcos to face 'drastic measures'

The Malagasy government plans to take drastic measures against telecom operators if they do not lower the prices of their internet services, reported Tahina Razafindramalo, minister of digital development, posts and telecommunications.

The measures planned by the government could include the establishment of a price ceiling or even penalties. If necessary, these coercive measures will be applied by the Communication Technologies Regulatory Authority (ARTEC).

This warning from the government is part of the standoff that has pitted it against telecommunications operators for several weeks over the price of internet services. At the beginning of May, the executive revoked a decision that came into force in April, and which set the floor price of the internet at \$0.95. It's been suggested that telecom operators have artificially kept prices high, which is not in line with the commitments made during the negotiations.

A reduction in the costs of internet services should facilitate their adoption and use by the Malagasy population, accelerating the government's digital transformation ambitions.



2.6 billion remain offline – but AI could help

Around 2.6 billion people are still not connected to the internet, but artificial intelligence (AI) may be the key to changing that.

According to the Broadband Commission for Sustainable Development's 'The State of Broadband 2024: Leveraging Al for Universal Connectivity,' the number of internet users grew to 5.4 billion in 2023 and is projected to hit 5.5 billion by the end of 2024.

That leaves 2.6 billion people still offline, especially in developing and least-developed countries. An estimated 38% of the global population lives within mobile broadband coverage and not using it, while 5% of the population is not covered by mobile broadband at all.

The report says that AI solutions can help accelerate progress on the commission's seven broadband advocacy targets for 2025: make broadband policy universal; make broadband affordable; get everyone online; promote digital skills development; increase use of e-finance; get MSMEs online; and bridge the gender digital divide.

Indeed, Broadband Commission for Sustainable Development's report said that telcos are increasingly using AI to reduce costs and optimize deployment and data traffic management across their network, as well as improve operations and the overall customer experience. By mapping network data and performance metrics to operations, customer care, marketing, and sales from a subscriber perspective, telcos can identify and address most network issues, before thev affect subscribers.

The report says that emerging technologies stand to revolutionize

the way decisions are taken and services are provided. Al is already reshaping the delivery of traditional services in sectors such as government, education, healthcare and finance. However, it also acknowledges challenges associated with Al and other emerging technologies, including energy consumption, misinformation, reinforcement of biases and gender discrimination.

The key for telcos and policymakers is to figure out how to get the most out of Al while being realistic about its risks and finding ways to mitigate them.

Rwanda's minister of information communication technology and innovation Paula Ingabire said that emerging technology trends like AI are anticipated to add trillions to the global digital economy, but added that "the ability to harness artificial intelligence to revolutionize access to broadband and other services as well as boost productivity for different sectors will require massive investments in the building blocks including power, connectivity and computing resources, particularly in emerging economies."

"Having two thirds of the world's population now online is a cause for celebration. But with only half as many connected in least-developed countries, and even less among women, the new report shows the urgent work still to be done," said UNESCO director General Audrey Azoulay, co-vice chair of the Commission. "We must also address the risks faced by those online, through better governance of digital platforms, ethical use of AI and massive upscaling in digital skills, including media and information literacy."

Malawi gains e-campus learning at LUANAR site

The Lilongwe University of Agriculture and Natural Resources (LUANAR) has partnered with Astria Learning to launch e-campus Learning.

The partnership will facilitate the delivery of 100% online undergraduate and post graduate programs through Astria Learning Platforms. The campus will be a digital platform where students can access their learning materials, take part in interactive sessions and complete their courses entirely online. LUANAR currently has over 15 000 students.

"Agriculture is the backbone of Africa's economy and our advanced e-learning platform will empower LUANAR students with the knowledge and skills needed to innovate and improve agricultural practices. By leveraging this technology, we aim to address and eventually eliminate food security issues in Malawi, ensuring that the nation can sustainably meet its food needs and improve the livelihoods of its people," said Jeff Bordes, CEO of Astria Learning.



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Congo forks out 38.7 billion CFA francs for digital transformation

The steering committee of Congo's Digital Transformation Acceleration Project (PATN) has adopted a budget of 38.7 billion CFA francs for the 2024 financial year.

This year, the PATN plans to carry out 57 projects that revolve around the provision of high-speed internet in public administrations, universities, secondary schools and in the hinterland.

"The government is counting on this project to achieve the objective of digital transformation of its economy as retained in the national development plan (PND) 2022-2026. This project aims, among other things, to increase access to underserved populations with high-speed Internet and to improve the capacity of the public sector to benefit from quality digital services," said Fernand Sosthène Likouka of the committee management of the PATN.

The PATN was officially launched in January 2023 and is supported by the World Bank, which finances it to the tune of \$100 million. It is part of the Congolese government's objective to promote equitable access to digital services for all citizens in accordance with the national digital transformation strategy 'Congo Digital 2025.' Furthermore, the executive wants to put ICT at the service of the country's socio-economic development.

Mauritius Telecom hits nationwide 5G targets

Mauritius Telecom (MT) has expanded its 5G network nationwide.

"This technology will enable the rise of revolutionary innovations such as augmented and virtual reality and the Internet of Things (IoT). It also promises to revolutionize sectors such as transport, production, health and even sport," said MT in a press release.

It was in July 2021 that MT introduced 5G in Mauritius, one month

after obtaining an operating license and frequencies from the Information and Communication Technology Authority (ICTA). Its 5G mobile technology was then available in five specific areas of the country. In April 2024, the public company launched ultra-broadband in Rodrigues.

The national deployment of 5G should help to democratise the service in the Mauritian telecoms market.

NuRAN Wireless makes 5-year NaaS deal with MTN for 250 sites across Africa

NuRAN Wireless has announced a five-year network-as-a-service (NaaS) agreement with MTN Group for the deployment of 250 sites in Africa under the NaaS business model, further to its Group Framework Agreement (GFA) announced with the MTN Group in July 2022.

This agreement is the fifth signed with MTN, totalling 2,150 sites in five different countries and representing up to approximately US\$27

million in revenues over five years, assuming that the 250 sites are completed. The five-year term of the NaaS pursuant to the GFA can be extended or renewed for an additional five years, subject to an extension or renewal agreement.

Revenues will be based on a revenue-sharing model, dependent on factors such as average revenue per user and rural penetration rates. The projects are expected to support 2G and 3G technologies and are tailored to various population densities.

"We are thrilled to announce this contract with MTN, marking another milestone in NuRAN's commitment to empower 50 million

Yahsat and Satcom Technologies to address Zimbabwe

Yahsat has announced a partnership with Satcom Technologies to explore opportunities to offer satellite services in Zimbabwe.

Yahsat and Satcom will work closely with the Zimbabwean government to support national projects by providing satellite connectivity solutions tailored to the country's needs and its development initiatives. This cooperation will cover several sectors, including mining, agriculture, health and education.

The initiative is expected to help improve internet adoption and usage in Zimbabwe and comes days after President Emmerson Mnangagwa approved the granting of an operating license to Starlink. lives and connect rural communities in this region. Recognizing the untapped potential of the rural market, this 250-site contract signifies our dedication to empowering the rural populations in Africa. We appreciate MTN's continued trust and support, fostering a strong and mutually beneficial relationship. With the addition of these 250 sites, NuRAN now has a total of 4,892 sites under contract, and we are rapidly progressing towards our goal of reaching 10,000 sites within the next five years," said NuRAN in a release.

NuRAN expects to retain ownership of the infrastructure after the completion of the contract, which increases the overall value of the agreement. The company intends to fund the deployment of the sites through asset-based project financing or similar debt-oriented facilities.



Smartphone shipments outpace feature phones

Smartphone shipments have for the first time surpassed feature phone stock in Africa showcasing the rise in adoption of more advanced handsets across the region.

IDC detailed in its report that smartphone units grew 17.9% year.on.year reaching 20.2 million units in the first quarter of this year, as feature phones declined 15.9% to 18.8 million units.

South Africa and Nigeria, the largest smartphone markets in Africa, drove growth due to popularity of Chinese brands. Kenya was the third-largest smartphone market in Africa by driving sales growth with financing schemes.

Transsion, which houses the Tecno, Itel and Infinix smartphone brands was the leading smartphone vendor in Africa due to its 'compelling entry-level portfolio' that are 'tailored' to the African market. However, Samsung and Xiaomi gained market share on the previous quarter, driven by mid-range (\$200-400) models.

Shipments of mid-range smartphones increased in Q1 while sub-\$100 devices declined, 'indicating a growing consumer preference for feature-rich models.'

IDC predicted the smartphone market in Africa will see 5.7% YoY growth in 2024. Growth is expected to sustain over the next five years.

"Africa remains a market with a high share of feature phones, although they are expected gradually decline as the to transition to smartphones gains momentum," said IDC research manager, Akash Balachandran. "This shift, coupled with rising demand, will be the key driver of overall growth in the smartphone market. Persistent inflationary escalating pressures and uncertainties macroeconomic may cause short-term fluctuations but will not impede the longterm transition."

📡 Talking critical

Planning ahead – can societies depend on 6G?

In a world where connectivity is essential but not yet ubiquitous, where development timescales are long and expectations high – and sometimes not met – we have learned that it is crucial to be in at the beginning if user requirements for critical communications in next generation mobile broadband are to be included in what are overwhelmingly consumerfocused technologies. Unlike narrowband technologies such as TETRA specifically designed for critical communications, the broadband world has, to date, been built on consumer expectations.

So, while 6G may seem a long way away, particularly for regions of the world where basic mobile coverage is still a challenge, TCCA has already agreed its 6G position, with support from other interested stakeholders, and is involved already in the early stages of specifications.

Background

In December 2023, The International Telecommunication Union (ITU) published the IMT2030 framework for the development of standards and radio interface technologies for the sixth generation of mobile systems, popularly referred to as 6G. With the evolution of information and communications technologies, IMT2030 is expected to support enriched and potential immersive experience, enhanced ubiquitous coverage, and enable new forms of collaboration, support expanded and new usage scenarios and enhanced and new capabilities. But, in terms of critical communications, are these the most important things required by societies? Because for users, it's all about trust.

Giving vertical sectors a voice

As Market Representation Partner (MRP) for critical communications in 3GPP, the organisation responsible for the creation of the global mobile broadband standard, TCCA has submitted input as to user requirements for 6G in terms of critical communications. 3GPP works to submit 6G standard IMT2030 proposals to ITU before the end of the decade.

TCCA's expectations from 6G for critical communications were put forward at the 3GPP Stage 1 workshop on IMT2030 use

cases, which took place in May 2024. TCCA was one of six vertical sectors proposing use cases and requirements for 6G. The workshop objective was to bring 3GPP closer to the ongoing initiatives of various global and regional research organisations and MRPs related to 6G. The collaborative effort is of utmost importance as the 3GPP working group SA1 undertakes the task of defining the requirements and use cases for 6G, conducting studies in Release 20 and normative work in Release 21.

The connection is the lifeline

When submitting our use cases on behalf of the critical communications sector, TCCA posed the question 'Can societies depend on 6G?'

There is a large degree of crystal ball gazing here, as we do not know exactly what society will look like in the next decade when 6G will be emerging. What is certain though, is that the core critical communications requirements will remain unchanged. Those requirements are coverage – availability – resilience – performance – and scalability. 24/7. With instant connectivity. The connection is the lifeline.

Critical communications users working in public safety: police, fire & rescue, ambulance services; border control, the military; in the transport sector, on the railways, buses, highways, airports, ports; in critical infrastructure: power, heat, water; in resource industries: oil & gas, mining; in manufacturing, at major events – critical communications are needed everywhere when communications are critical.

3GPP has addressed many of the critical communications functional requirements Release by Release starting from Release 12 with 4G continuing to add capabilities like Non-Terrestrial-Networks (NTN) and Device-to-Device communication multihop over 5G sidelink in Release 19 that is currently being worked on. Whilst this has happened, societies and economies have become more and more dependent on mobile communications, requiring the service to be holistically more reliable and available.

Enhancing the level of trust

TCCA obviously doesn't have a crystal ball, but it's a fair bet to say that reliance on connectivity will only increase into the future. For our input into 3GPP, we

Tero Pesonen, chair, TCCA Critical Communications Broadband Group

set out some principles for 6G as it should relate to critical com

relate to critical communications. 6G should maximise the relevance of 3GPP systems for critical communications – introducing new capabilities while leveraging the existing ecosystem, including seamless integration with 4G and 5G and backwards capability

at service level. The 6G standard should simplify the introduction of solutions for critical communications by ensuring that it provides a common suite of capabilities applicable across as many critical communications vertical markets as possible, and maximise commonalities between those verticals and others to ensure economies of scale and the widest available markets.

Above all, 6G should enhance the level of trust users have with the system, for mission and safety-critical operations.

This means end-to-end service guarantees, and efficient ways to track and observe service performance and automatically take corrective actions. Using AI and ML tools, it should be possible to enhance the differentiation and handling of mission critical traffic.

6G needs to deliver efficient solutions for providing coverage everywhere – including in the most remote and rural areas, and in challenging propagation scenarios. In parallel, it should enable simplified deployment and operation, with interoperability within and across networks, including mission critical roaming scenarios.

For resilience and robustness, 6G should have architecture and deployment options for efficient redundancy and have standards ready for leveraging secure cloud-native tools for improved resilience. And of course, the highest levels of security.

Just take moment to think of the change in your world – and in the whole world – if there was suddenly no mobile connectivity. How many processes would fail. How many supply chains would crumble. How many actions that we simply take for granted – simply couldn't happen. What would still work?

6G is the first standard where trust could be the design principle to answer to the needs of the connected world in the 2040s. In TCCA, and with other stakeholders in critical communications, we are working to ensure that. Join us on the mission.

Court dismisses ATC & MTN Nigeria tower lawsuit

A lawsuit against ATC Nigeria and MTN Nigeria over constructing or operating base transceiver stations "within close proximity" to stations owned by IHS Towers Nigeria has been dismissed by a Nigerian court.

The lawsuit had been filed by non-profit organisation, Human and Environmental Development Agenda (HEDA) Resource Centre, in November 2023. HEDA also filed a contempt of court case against ATC Nigeria's CEO, Errol Ambler-Smith, seeking his arrest, which HEDA later withdrew.

On 21 June, the court struck out HEDA's suit against ATC Nigeria and MTN Nigeria on the grounds that it was speculative and failed to disclose any reasonable cause of action.

"We are pleased that the court recognised the

speculative nature of HEDA's lawsuit, and we are hopeful that this outcome will send a message to other similar potential speculative lawsuits. We appreciate the support and understanding of all our stakeholders as we continue to invest in, and provide critical infrastructure for, Nigeria's telecommunications industry," said ATC Nigeria in a statement.

Communications costs to drop in Senegal

The costs of telecommunications services in Senegal are expected to fall soon as Ahmadou Al Aminou Lo, secretary general of the government, reported that Senegalese mobile operators have responded to the state's call for a reduction in prices.

As a result, Sonatel, Free and Expresso will market new offers that will benefit consumers, especially those who purchase retail packages.

This initiative is part of the Senegalese government's efforts to strengthen the purchasing power of the population. The reduction in prices should encourage greater adoption and use of the services. This should help accelerate the digital transformation

ambitions of the government which wants to make Senegal a benchmark in digital transformation on the continent by 2029.

Orange Smart Energies opens to all African energy producers

Orange Energies is opening up its digital platform Orange Smart Energies to all energy producers in Africa.

The goal is to increase energy inclusion by providing easy, prepaid access to energy through solar kits and smart meters. This IoT platform provides a solution to the profitability challenges faced by energy producers in Africa, by reducing the risk of non-payment.

Orange Smart Energies is a software platform now open to all energy producers in Africa and the Middle East that guarantees payment by their customers via mobile money. The business model, based on a partnership between Orange and energy producers, enables Orange Energies to provide a digital service and a distribution network that makes it easier for everyone to access energy in rural areas, down to the last kilometre. This universal platform is the only one on the market that supports both pay-as-you-go solar equipment and prepaid smart meters.

Orange Energies' ambition has always been to make energy more accessible by becoming the preferred partner of energy producers in a region of the world where

one in two Africans lives without electricity and where electricity companies want to improve the efficiency of accounts receivable collection. Operating in 12 countries (DRC, Madagascar, Cameroon, Senegal, Côte d'Ivoire, Central African Republic, Burkina Faso, Mali, Sierra Leone, Liberia, Guinea and Jordan), with more than 300,000 households benefiting from its services every day, Orange Energies continues to expand its customer base and regional coverage across the continent.

"Using digital technology to improve the energy inclusion of African people has been our ambition since day one. By opening up our Orange Smart Energies platform to all energy producers, we are taking a major step forward in our commitment to universal access to energy in Africa and the Middle East," said Jérôme Hénique, CEO of Orange Middle East and Africa.

"We are working with energy producers to help them sustain their business in African markets. Leveraging existing digital and financial inclusion solutions, our pay-as-you-go service is delivered through a distribution model tailored to African markets," said Nat-Sy Missamou, senior vice president of Orange Energies for Africa and the Middle East.

Starlink enters Sierra Leone

Starlink's services are now available in Sierra Leone, the ninth African country, and the hundredth globally, to benefit from commercial services.

The service will cost 1,020 leones per month with a one-time hardware cost of 7,860 leones. Deliveries are currently limited to the towns of Bo, Kenema, Freetown and Makeni.

"In accordance with the Telecommunications (Subscriber Identification and Registration) Regulations 2020, customers in Sierra Leone must register with Starlink before the Starlink service can be activated. In the future, customers will be required to submit a copy of a photo ID," said Starlink

> in a statement. On the continent, Starlink is already present in Nigeria, Rwanda, Mozambique, Kenya, Malawi, Benin, Zambia and eSwatini.

MTN Ghana targets upgrades

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MTN Ghana has announced the launch of a network upgrade across the country in a campaign will run until August.

It is expected to enable it to improve customer experience and reduce carbon emissions. It will involve replacing existing mobile network infrastructure with more efficient and environmentally friendly equipment.

"While this modernisation project is not expected to have a negative impact on network performance, customers may experience intermittent interruptions to some services, as is the case with any technology upgrade," said Thomas Motlepa, technical director of MTN Ghana.

The installation of more environmentally friendly equipment should enable the company to strengthen its energy efficiency and resilience, as well as its brand image.

Huawei and MTN South Africa partner on Net5.5G future networks

of challenges in terms of service and network

operations, security, reliability, and other

areas, and MTN looks forward to deepening

the commercial use of the next-generation

IP transport network under the guidance of

the Net5.5G target network. According to the

MoU, MTN and Huawei will continue to define

the Net5.5G target network and support the

development of MTN's mobile, enterprise, and

Huawei will work with MTN to accelerate

cooperation with Huawei.

home broadband services.

MTN South Africa and Huawei signed a the cloud and 5G era, MTN still faces a range memorandum of understanding (MoU) for strategic cooperation on Net5.5G.

Through this partnership, the two companies will jointly promote the large-scale application of key Net5.5G capabilities, such as 400GE, SRv6, slicing, and Network Digital Map, to continuously improve MTN's service experience and network availability in the consumer and B2B fields, as well as enhance its O&M efficiency.

MTN SA said that the application of SRv6 and Network Digital Map has helped MTN build an IP transport network with optimal experience. In

Lagos and Interswitch eClat sign smart health MoU

The Lagos State Government has signed Memorandum of Understanding а with Interswitch eClat to develop and operate the Lagos Smart Health Information Platform.

The government hopes that this publicprivate cooperation will enhance healthcare operations and the Nigerian healthcare sector, which is underfunded.

"The signing of the Concession Agreement between the Lagos State Government and Interswitch for the implementation of the Smart Health Information Platform signifies the beginning of a comprehensive technological overhaul in Lagos State's health sector," said executive governor of Lagos State, Babajide Olusola Sanwoolu. "I believe that this platform represents a significant approach to utilisiing technology for accessing health information. It is poised to deliver numerous benefits and eliminate payment barriers, thereby encouraging citizens to actively engage with the process."

Interswitch will let the State Government use electronic medical records from several places to improve experiences and better planning and policymaking.

"The go-live of the Lagos Smart Health Information Platform will significantly close many identified gaps in electronic medical records management, essentially addressing long-standing constraints including process inefficiencies, limited transparency and inadequacy of necessary tools and supplies, among other challenges," said Wallace Ogufere, president and CEO of Interswitch.

Orange SA mulls sale of 40% stake in Mauritius Telecom

According to Bloomberg, Orange SA plans to its core assets and divesting non-core holdings. sell the 40% stake it holds in Mauritius Telecom because the asset is no longer considered strategic. The potential sale comes as part of Orange's strategic realignment to concentrate on decision could be made in November.

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The company has discussed its potential exit plan with advisors but has yet to formally speak with the incumbent's board of directors. A

Mali's mobile money penetration expands to 66%

Malian Regulatory Authority The for Telecommunications, ICT and Posts (AMRTP) has identified 14.5 million mobile money accounts in Mali in 2022. This is a 150% expansion compared to the 5.8 million of accounts in 2017. Over the period, mobile money penetration rate increased from 31% to 66%.

Meanwhile, national mobile subscription increased from 22 million in 2017 to 25.8 million in 2022. The mobile penetration rate was 117% in 2022. The AMRTP recognizes mobile money as a 'real catalyst' for financial inclusion and public payments. Mobile money contributed 30% to Mali's financial inclusion rate which was 54% in 2022.

"Appropriate regulatory measures must be put in place to strengthen competition in this market and reduce the cost of access. Measures favourable to public payments (taxes, salaries, benefits) as well as the interoperability of platforms must be considered with a view to democratizing access and use. It will be up to the regulatory authorities (telecoms, banking, competition, etc.) to work in synergy to meet these challenges," said AMRTP in a statement.

Liquid to expand through Μοгоссо

Liquid Intelligent Technologies announced a has partnership agreement with Orange Maroc (Médi Télécom) to extend the reach of its services in Morocco. The collaboration will be mainly

implemented by Liquid Dataport.

"This strategic partnership will facilitate access to connectivity for our international customers, as well as access to Liquid's entire portfolio of services, including our extensive pan-African fiber optic network, LEO/MEO/GEO satellite solutions and Liquid C2's innovative cloud and cybersecurity solutions," said Ahmed El Beheiry, chairman and CEO of Liquid Intelligent Technologies.

Through this partnership, Liquid strengthening its presence in North Africa as part of its strategy to conquer the African market for high-speed connectivity and digital services. This collaboration should help strengthen competition and improve access to high-speed Internet in Morocco.

NIGCOMSAT revolutionises customer engagement

An Al-focused partnership between Nigerian Communications Satellite Limited (NIGCOMSAT) and Vault Hill has culminated in the successful development of Vault Hill's AI business companion Hillda, which has been adapted to the brand persona of NIGCOMSAT as 'Ayesha,' an AI companion customised for NIGCOMSAT, revolutionising customer engagement and service delivery.

Aligning with the Nigerian Ministry of Communications. Innovation. and Digital Economy's strategic agenda to create 50,000 Al jobs by 2030 and train three million technical talents, this initiative is described as a transformative step in shaping a future where technology is the cornerstone of growth, inclusion and empowerment.

Vault Hill developed Ayesha with the integration of its proprietary AI technology and immersive capabilities. Now, it claims, Ayesha is set to transform NIGCOMSAT's customer interactions. As an advanced AI companion, Ayesha provides an immersive avatar chatbot interface, offering 24/7 customer support. This initiative is described as a step forward in integrating AI into NIGCOMSAT's operations to enhance service delivery and contribute to the national agenda of technological progress and job creation in the AI sector.

"We envision a future where our Al-driven solutions enhance customer experiences and contribute significantly to job creation and technical talent development in Nigeria and bevond," said Jimi Daodu, CEO of Vault Hill,

NTT Data commences I FO satellite deployments for key enterprise clients

NTT Data Middle East and Africa has announced the launch of deployments of its low Earth orbit (LEO)based connectivity services for nine key clients spanning various sectors such as retail, banking, mining, and logistics.

The services aim to deliver a connectivity solution that improves network performance and provides a consistent and better client experience.

The deployment of LEO satellite services aims to mitigate the frequent disruptions caused by fibre cable breaks or power disruptions (load shedding), ensuring more reliable and continuous connectivity for businesses across the region.

However, NTT Data emphasised that, although it has been offering satellite services for more than 10 years, an integrated GEO-LEO solution, together with

fibre and wireless alternatives, translates to enhanced performance for multiple use-cases including access to latency-sensitive applications as well as real-time services such as video conferencing, among others.

"Our approach is to provide LEO-based connectivity solutions using industry specific full-stack architecture. This enables business transformation for our clients, as opposed to simply connecting their locations. The enhanced attributes of LEO only reach their full potential when used in an integrated infrastructure and application ecosystem tailored to the requirements of the organisation," said NTT Data in a release. "We are incredibly excited to have already started the deployment of this transformative satellite technology to our clients."

Telecom Egypt cuts scam calls by 90% with Enea voice firewall

voice firewall to protect against scam calls and unwanted robocalls, more than 90% of incoming calls with spoofed caller IDs have disappeared from its network

When the firewall solution was initially deployed, 8+% of all calls were identified as fraudulent and immediately blocked. This has acted as a deterrent to scammers, who have now ceased targeting the network, resulting in a roughly 90% reduction in spoof calls on the network.

According to the Global Anti-Scam Alliance victims are reached.

Since Telecom Egypt has deployed Enea's (GASA), phone calls are the leading channel for scam attempts worldwide, a sobering fact that underscores the importance of robust telecom security measures.

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To protect its subscribers, Telecom Egypt has deployed Enea's voice firewall, a cutting-edge solution that operates on a zero-trust approach. It accurately detects and blocks any spoofed calls coming into the network, ensuring that only genuine calls reach the subscribers and preventing scams at the very first stage before potential

CNET to integrate Safaricom's M-PESA system for POS

Safaricom has announced a strategic partnership with CNET to integrate Safaricom's M-PESA mobile money payment system with CNET's POS technology, enabling merchants to utilize M-PESA services seamlessly.

The integration will ensure that M-PESA customer-initiated payments, merchant initiated transactions, and OR code payment services are available at each merchant outlet using CNET's systems. This development is expected to significantly enhance the digital payment landscape in Ethiopia, making transactions more convenient for both consumers and businesses.

"This partnership is a significant step forward in our commitment to empower Ethiopia through digital financial services. By combining the strengths of Safaricom and CNET, we will be able to develop new and enhanced digital payment products that cater to the evolving needs of our customers, from

individual consumers to small and medium-sized enterprises," said Paul Kayayu, chief digital financial services officer, Safaricom Ethiopia.



WIOCC Group wins funding for data centre expansion

A financing package from IFC and Proparco will fund WIOCC's expansion strategy in three African countries, enhancing the continent's digital infrastructure and connectivity and supporting economic growth.

The financing includes loans of \$10 million and ZAR 200 million from IFC, a member of the World Bank Group, and \$20 million from Proparco, a development finance institution and subsidiary of the Agence Française de Développement Group. WIOCC expects to sign an additional \$10 million loan for its expansion in Nigeria with RMB in the next few weeks.

With the funding, WIOCC Group will expand its core and edge data centres in the DRC, Nigeria, and South Africa to meet growing demand for colocation and other data centre services. It will also grow its fibre networks, helping bridge the digital divide, and fostering economic growth across Africa.

"We are excited to conclude this next stage of our capital raise, which will enable significant expansion, adding further capacity to our openaccess data centre operation and extending open-access hyperscale national, international, and metro connectivity across our key markets in Nigeria, southern Africa, the DRC and Greater East and Central Africa," said Chris Wood, CEO of WIOCC "Our policy of continual Group. investment in infrastructure to create Africa's first, truly open-access interconnected digital ecosystem means ongoing investment for growth, ensuring readiness to meet the future demands of our clients' customers throughout Africa.'



Left to right: Dan Croft (Regional Industry Manager, Infrastructure, Central Africa & Anglophone West Africa - IFC), Jean Guyonnet-Duperat (Country Director Nigeria - Proparco), Chris Wood (CEO - WIOCC Group), Chidi Iwuchukwu (Head of Investment Banking, Banking Division Africa - RMB)

Talking satellite

Satellite: enabling Industry 4.0 and IIoT

Businesses worldwide are looking to the future. They are modernizing, becoming more efficient and automating a large portion of their operations. Industry 4.0 is beginning to permeate industry on a global scale, bringing forth smart factories and other innovation that can be leveraged to increase production and profit.

An important part of this transition is the Internet of Things or IoT. IoT is a network of connected devices and the technology that enables between communication those devices and the cloud, where the data is stored. Across Africa, IoT is gaining traction and overall, the sector is set to experience significant growth. Statista forecasts that the IoT market in Africa will reach US\$25.76 billion in 2024. That is staggering growth and demand is coming from many sectors. IoT knows no bounds, because it can be applied anywhere to anything, enabling monitoring of limitless things - there are so many applications we are not even aware of at this time.

For industry, IoT provides real-time data on the performance of the thing that it is monitoring and that could be anything from cattle on a farm to a piece of machinery in an automotive factory. It measures output and other key metrics, facilitating fast decision making and the capability to optimise operations and reduce downtime.

Let's zoom in a little more. For North Africa, the projected revenue for the industrial IoT market, according to Statista, is US\$1.58 billion this year. This is expected to rise again to US\$2.83 billion by 2028. In North Africa, the most promising markets for growth are agriculture and energy.

Both these industries are increasingly turning to IoT to enable them to become more operationally efficient and they both have one thing in common - their remote location. For those companies wishing to implement IoT technologies, there is a barrier in terms of geography. Terrestrial connectivity simply doesn't extend far out into remote regions. Farms, by their very nature are often located in remote areas, off the beaten track and outside of population centres to allow for acreage. For the energy sector too, exploration and production teams are increasingly being forced further and further from civilisation to find new sources of fossil fuel and green energy sources can be located offshore or in remote regions.

Satellite – solving the problem of remote IoT

IoT services delivered via satellite remove boundaries for businesses that wish to take advantage of the host of benefits that they bring. These networks can be rapidly deployed, cost-effectively and deliver fast RoI. Moreover, they can be used for any application, from those with low to very high data rate demands, as well as fixed and on-the-move. The use of satellite means there are no geographical constraints to the IoT service. It is transformative for IoT users.

Add intelligent capabilities, such as AI and these networks help to increase outputs, efficiencies and profitability. The most exciting thing about satellite IoT is that its capabilities can be applied to just about any sector that you can think of. But let's look at how and why IoT can benefit the key growth areas in North Africa.

Agriculture

Agriculture represents a huge growth market for IoT providers. As a planet, we are looking to secure food sustainability in the face of climate change and constant price hikes. Food needs to be plentiful but also affordable. Traditional farms face a plethora of challenges such as inefficient resource usage, unpredictable weather conditions, challenges in monitoring assets, and labour shortages all of which agricultural productivity. hinder Growth demands mean that they must consider improved energy and resource efficiency, dealing changing weather conditions, with staying top of soil, and ΟN pests, and diseases.

The farming community, and those that provide services to it has turned to satellite IoT. For example, in the US and Brazil farming machinery giant John Deere has issued an RFP to equip its farm machinery with satellite IoT connectivity and it demonstrates

Majdi Atout, senior consultant, APPLIOT

the power of the technology - they want to be connected anywhere and everywhere. And satellite allows that.

The IoT connectivity enables a farm to promote efficiency of resources, increase yield and profitability, automate their processes across production cycles, reduce waste, minimize environmental impact, improve animal welfare, and monitor livestock.

Energy

For energy users, IoT enables them to connect their infrastructure which is often located in remote and harsh environments. This makes the monitoring and management of critical assets challenging and at times, dangerous.

To enable sustainable growth of the sector calls for real-time asset monitoring, improved crew welfare and optimized operational efficiency.

Through the implementation of an IoT system, energy companies can keep on top of their operations through real-time process monitoring, making changes where they are needed. It also enables them to enhance their production efficiency as point of operation is being managed and this also drives down costs. As IoT enables the monitoring of complex machinery, this also reduces downtime as predictive maintenance means that issues are tackled before they become issues. The critical issue of safety and security is also addressed as monitoring is heightened at remote sites. In using satellite delivered IoT solutions, the other huge benefit is scalability. Satellite can scale like no other technology, so it is a simple process to add new sites to a network so that it can grow as your operations do.

Satellite IoT: the solution for remote operations

Satellite IoT will continue to grow in popularity across North Africa. Satellite lends itself so well to its vast geography. It can scale cost effectively and can fulfil any application. This is the time for IoT and the opportunity for businesses to go beyond.



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Driving a sustainable digital revolution for Africa's tomorrow



Chele Moyo, TMT coverage banker at Absa CIB; and Barbara Asafu-Adjaye, head of TMT, Absa Ghana

Sub-Saharan Africa stands at the brink of a digital revolution, where telecommunications and technology are poised to be the driving forces behind sustainable socio-economic development. With a youthful population and vast economic opportunities, the region is embracing digital transformation as a pathway to inclusive growth and prosperity.

We believe there will be a few key drivers of this digital transformation on the continent that will unlock significant economic value in the years to come.

AU digital transformation strategy

The first is the African Union's Digital Transformation Strategy which outlines a bold vision for an integrated and inclusive digital society and economy in Africa.

Key objectives include building a secured Digital Single Market, ensuring digital empowerment for all citizens, and creating a harmonised environment for investment and innovation. Central to this vision is the development of digital infrastructure, including telecommunications networks, broadband connectivity, and digital platforms, to facilitate inclusive growth and development.

For this to be achieved, several elements will need to be integrated.

This includes the implementation of laws and regulations required to stimulate and accelerate digital transformation for national, regional, and continental development – particularly in the context of the African Continental Free Trade Area (AfCFTA). To this end, there is a desire to develop policies and regulations and establish and improve digital networks and services with a view to strengthening intra-Africa trade, intra-investment and capital flows and the socio-economic integration of the continent, while maintaining a relational balance with other continents in the context of networked economies.

Digital infrastructure and connectivity

Access to affordable, reliable digital infrastructure is fundamental to achieving inclusive digital transformation.

significant Despite progress, nearly 300 million Africans still lack access to high-speed broadband internet. Mobile devices remain the primary means of internet access, highlighting the importance of mobile networks in bridging the digital divide. However, high taxes and levies on the mobile sector pose challenges to affordability and accessibility, hindering widespread adoption of digital services. While 5G technology holds promise for enhancing connectivity and driving innovation, its adoption in Africa remains nascent 3G and 4G remain the dominant sources of connectivity across the continent, with mobile network operators looking to improve accessibility by increasing access to low-cost smartphones.

As of now, only a few countries have launched commercial 5G services, with South Africa and Nigeria leading the way.

However, increasing broadband speeds and spectrum allocation are critical steps towards unlocking the full potential of advanced technologies. The benefits of which include increased productivity, innovation, and economic growth. With ongoing investment in telecommunications infrastructure and supportive regulatory frameworks, improved affordable connectivity and access to higher speed broadband has the potential to propel sub-Saharan Africa into the forefront of the global digital economy.

Building digital skills

To realize the full benefits of digital transformation, sub-Saharan Africa must overcome various challenges, including limited access to infrastructure, high tax burdens on the mobile sector, and a lack of digital skills.

Investing in human capital and cultivating a skilled workforce is crucial for harnessing the potential of emerging technologies. Moreover, addressing regulatory barriers and promoting collaboration between governments, businesses, and civil society is essential for fostering an enabling environment for digital innovation and entrepreneurship.

Absa has recognised this challenge

and has invested in several digital initiatives across the continent including a world-class cybersecurity academy aimed at tackling a rising global scourge of cyber-crime.

The role of mobile money and financial inclusion

Mobile money has emerged as a powerful tool for promoting financial inclusion and driving economic growth in Africa.

In countries like Ghana, the growth of mobile money has led to significant improvements in financial access and inclusion. However, the imposition of taxes and levies on mobile services, such as the E-levy in Ghana, poses risks to the affordability and accessibility of mobile money services. Balancing the need for revenue generation with the goal of promoting financial inclusion is crucial for sustaining the momentum of digital transformation.

Telecommunications and technology have the potential to catalyse sustainable development and inclusive growth in sub-Saharan Africa.







Mega-constellations - the answer to connecting Africa?

As Africa begins to see the first services rolled out from megaconstellations of LEO satellites, what are the impacts for users, the economy, and the connectivity ecosystem?

n the not-so-distant past, satellite connectivity was seen as a solution primarily for governments, military, and enterprises due to its high cost and specialised infrastructure requirements. However, recent advancements in satellite technology are changing this view, bringing it within reach of a wider audience for the first time.

With more satellites being launched and more users signing up, operators are beginning to benefit from economies of scale, enabling them to reduce cost per user. Similarly, as constellation projects advance, innovations in ground stations and user terminals abound, cutting costs while driving up quality. Supportive government policies and regulatory frameworks, too, can facilitate the deployment of satellite services and reduce operational costs.

Despite falling costs, however, affordability

remains a significant source of contention.

"At this point, the services on offer in Africa by the likes of Starlink are far too expensive for the average African – and getting even more expensive across many countries in the region, like Rwanda and Zambia," asserts Tim Kravchunovsky, founder and CEO, Chirp. "This is because Starlink is a centralised telecom structure, which is a model that simply cannot support affordable services for the average African person (unlike decentralised solutions)."

Kravchunovsky says that Zambian users, for example, will see their monthly fees for the 'Mobile – Regional' service more than double to ZMW2,500 · but the average monthly salary in Zambia is around ZMW6,000, so this price is unrealistic for all but the upper classes and enterprise users.

Dawie de Wet (Pr. Eng. M.Sc. Eng.), group CEO,

Q-KON, however, disagrees: "satellite is certainly an option for the general African market – both the business market and the consumer market, even at the current rates of 1-2/GB, which will improve further as the next generation GEO services and the emerging LEO services start rolling out at a large scale."

Mobile first?

Despite Africa's identity as a mobile-first continent, there is genuine demand for satellite communications among consumers, especially in areas where mobile coverage falls short.

Highlighting the shortage, de Wet comments that "mobile data connectivity is predominantly the current choice; not that it's the preferred option, it's more like the only option. For example, in 2018, fixed broadband subscribers in South





Africa were close to 3.9 million according to ICASA; then fixed ADSL service was discontinued; and as of 30 September 2023, the fixed broadband subscriber-base is only about 1.8 million. At the same time LTE grew from 59 million to 65 million. This means that about 2 million fixed subscribers are not being serviced, probably due to the limitations of fibre rollouts, while the LTE growth supports the affordability of the market. It also means that, should more effective fixed broadband services be available, then there is a demand of 2 million subscribers, and that refers to South Africa alone."

It's certainly true that, while mobile networks, and particularly high-speed 4G and 5G technologies, continue to spread across Africa, there remains a significant coverage gap, especially for mobile generations beyond 3G. And it's not just availability – network reliability and resilience leave a lot to be desired in some regions, being vulnerable to natural disasters, political instability, and disruptions like the widespread cable outages of March 2024. Additionally, even in areas with mobile network coverage, satellite can serve as a backup to ensure uninterrupted service.

"Africa has consistently remained the least connected continent across the globe. In fact, internet usage dropped from 40% in 2022 to just over one-third in 2023, according to the International Telecommunication Union (ITU)," says Kravchunovsky. "Satellite-based telecommunications can be a game-changer to bridge this connectivity gap. The demand we've seen for Starlink's services – often despite regulatory constraints, such as in South Africa – shows that there is interest from the general population. But if the introduction of satcoms

Eutelsat OneWeb comes to South Africa

In November 2022, OneWeb announced a distribution agreement with Q-KON Africa to offer broadband connectivity services in Africa. The OneWeb LEO satellite network would provide Q-KON Africa's Twoobii customers access to high-speed, low-latency broadband to connect even the most rural or remote communities across several African countries, including South Africa, Lesotho, Swaziland, Namibia, Botswana, Zimbabwe, Zambia, Malawi, and Mozambique.

The five-year deal will enable Q-KON Africa to utilise OneWeb's network to provide vital internet service and WiFi backhaul to connect schools, hospitals, civil government and other fixed enterprise and fintech services throughout the continent including banking, mining, and backhaul solutions.

"At OneWeb, we believe that connection everywhere changes everything and that's why we are thrilled to be partnering with the engineering experts at Q-KON Africa to further our mission to connect those hardest to reach to the internet. Q-KON Africa's strong industry understanding, flexibility, agility and local support will help us see OneWeb's LEO satellite network create opportunities to benefit unconnected and underconnected areas across Africa for today's digital environment. This agreement is another example of OneWeb's continued momentum, as we remain on track to activate coverage solutions in Africa and globally in 2023," said Ben Griffin, VP mobility and AMEA at OneWeb.

In February 2024, the first operational Eutelsat OneWeb Low Earth Orbit (LEO) satellite service was launched on the continent. The solution provides a reliable backup internet connection for a leading digital bank in South Africa, ensuring uninterrupted service even in case of terrestrial network disruptions.

The undisclosed bank has been provided with consistent internet speeds of 50Mbps with minimal latency, guaranteeing seamless operations regardless of ground-based infrastructure challenges.

This collaboration between Eutelsat, Q-KON, and the South African digital bank paves the way for broader adoption of LEO-based solutions within the African banking sector.

to Africa is botched, users will lose faith in this alternative."

As satellite technology continues to evolve and become more affordable, it is likely to play an increasingly important role in connecting the unconnected and enhancing overall connectivity across the continent, particularly as consumers become more aware of the possibilities. This will be helped in no small part by the distinct advantages LEO constellations have to offer when compared with the existing fibre, terrestrial, and other competing technologies.

"The main advantage of satellite megaconstellations, like those being developed by SpaceX, OneWeb or Amazon, is the increased connectivity they can provide in rural and remote areas, where the cost of installing fibre optic cables or terrestrial infrastructure can be prohibitively expensive," states Kravchunovsky.

Connectivity can also be delivered much more rapidly than terrestrial infrastructure thanks to quick plug-and-play VSATs and 'satcoms in a box' products, which hold immense value in times if disaster or turmoil where existing infrastructure may have been damaged.

"LEO satellites are also immune to natural disasters on Earth, like floods, earthquakes, and storms, making them an increasingly preferable choice as the effects of climate change intensify," adds Kravchunovsky. "They offer many advantages, from advancements in agricultural monitoring and emergency healthcare provision in remote areas, to the expansion of internet coverage to underprivileged populations. However, the cost of these services must be affordable to make mass expansion possible. Otherwise, they will remain a technology only available to governments, mass corporations, and the elite."

The advantages of satellite for mobility, disaster recovery, emergency services, IoT/M2M, and critical infrastructure redundancy applications, are well-known and often touted, and indeed, the coming mega-constellations are poised to complement and, in some cases, outperform existing technologies. As these constellations become operational, they will likely play a critical role in expanding global internet access and improving connectivity where traditional methods fall short.

de Wet reminds us that "it is not about being better: the hierarchy of choice will still be fibre as a first choice, then wireless, and finally satellite. The issue is that each of these technologies has specific constraints and positioning for rollout and can't service the full spectrum of demand alone. It is more a question of being a market ready option to service the subscribers beyond the feasible fibre rollout areas."

The connectivity ecosystem

With the launch of the first sets of megaconstellations to the African marketplace underway, the connectivity ecosystem is expected to undergo significant transformation.

Consumers stand to gain from competitive

pricing and lower connectivity costs, with some finding satellite communications affordable for the first time. Additionally, this enhanced connectivity will support the growth of IoT and M2M applications, enabling smart agriculture, environmental monitoring, and logistics tracking – a very real benefit for all Africans, and in line with the digitalisation policies many of the continent's governments have announced in recent years.

However, Starlink and Kuiper, which have adopted direct-to-consumer models, will drastically reduce opportunities for resellers and others in the value chain, and the resulting limited number of resellers could lead to market saturation

in certain regions, impacting profit margins and business sustainability. Traditional internet service providers (ISPs) will need to adapt by either integrating satellite services into their offerings or focusing on areas where they have a competitive advantage, such as local customer support and bundling services.

"The go-to-market model for the mega-providers remains a concern and the final market success will be determined by how these megaproviders find a balanced model between the on-the-ground Africa market requirements, versus the global business case demands," cautions de Wet.

Kravchunovsky additionally highlights that the concern with this direct-to-consumer model is that end users are forced to buy hardware and sign up for contracts, with no guarantee that services will remain affordable

"When prices see sudden exponential increases, these people are left with hardware they cannot afford to use and cannot resell," warns Kravchunovsky. "If this trend continues, the likes of Starlink and Kuiper may struggle to achieve the mass adoption they are hoping for in underprivileged communities and low-income areas, which often tend to be the remote areas they are trying to service. After all the hype around this innovative technology, we may be in for an anticlimax in the near future.'

However, not all the megaconstellations are targeting the B2C model. Eutelsat OneWeb, for instance, supplies low Earth orbit (LEO) connectivity through a trusted network of distribution partners in carrier and enterprise markets. This will prove a boon for local economies, with money continuing to circle through local hands, rather than being offshored to the large multinational conglomerates.

An indigenous constellation

TRL Space Rwanda announced in April 2024 that it is spearheading an ambitious initiative to establish Africa's first satellite and equatorial constellation hub.

TRL Space's plan in Rwanda is to cultivate indigenous capabilities for developing nanosatellites and equatorial constellations, laying the foundation for a thriving space ecosystem on the African continent. TRL Space plans to invest over US\$2 million in this endeavour.

The first milestone will be the development of a 6U Cubesat at the Rwandan branch – the launch is scheduled for the second quarter of 2025.

TRL Space has already initiated identifying and nurturing local talent through the recent CubeSat Makerthon, which enabled the company to recruit a diverse pool of skilled individuals across Africa. This initiative aims to build a robust space community that contributes to establishing Africa's Satellite and Equatorial Constellation Hub in Rwanda.

"Our intention is not just to deliver these technologies to Rwanda. We bring added value to the region. Our goal is to introduce new space technologies that increase the economic and living standards of the entire region," said TRL Space's CEO, Petr Kapoun.



Building sustainable cities

Smart cities are changing the way we live. From 'greenscaping' major urban centres with sustainable initiatives, to enhancing citizen safety, smart cities have a lot to offer...

mart cities are big business. As per Statista, African smart city revenues are expected to expand at 16.28% annually over 2024-2028 to reach US\$19.71 billion. During the same period, the number of smart city connections is forecast to more than double, from 231.40 million in 2024 to 543.10 million in 2028.

Africa's smart cities integrate a wide array of technologies and data-driven solutions to enhance the quality of life for its residents, improve efficiency, sustainability, and economic development. Relying on robust ICT infrastructure, data analytics of traffic patterns, energy consumption, air quality and waste management enable city planners to prioritise sustainability by targeting green buildings and ecofriendly practices.

But what's the difference between innovation for innovation's sake, and the development of genuinely smart, next generation cities that are beneficial for both people and planet?

"A city is truly smart when it can work for its people by improving safety, quality of life, efficiency, sustainability, and more," shares Rony Cohen, cofounder and head of business development, floLIVE. "Take for example, the ability to time traffic lights with ambulances or fire trucks or rerouting traffic in real-time when an accident occurs. Cities become smart when waste disposal and street lighting can be automated; when air quality can be monitored; and when public transportation routes and timing are communicated at the moment."

"One smart city may look very different to another - but smart technologies will help alleviate some of the pressures they are facing today and in the future," says Phil Beecher, president, Wi-SUN Alliance. "According to the UN, just over half of the population lives in urban areas, but this is expected to increase to around 68% by 2050. In real terms, this means adding another 2.5 billion people to urban areas in the next 30 years."

This shift from rural to urban, alongside huge population growth, will put massive pressure on authorities, municipalities, and city planners to tackle major urban issues like rising traffic levels, transport infrastructure, and environmental issues like air quality, as well as growing social issues associated with increased urbanisation such as crime.

"We will see major developments in smart grid technology as city populations increase, to help manage the load on the electricity supply, reduce peak demand and enable optimum use of newer forms of energy, like renewables," predicts Beecher. "Street lighting is another example, with smart lighting initiatives becoming an enabler for more ambitious smart city development."

Enabling technologies

Smart cities inherently rely upon secure, robust, reliable communications networks. Several technologies will play a crucial role in facilitating communication and data exchange.

"The right wireless communications network is critical to smart city development, one that is based on open standards, enabling true interoperability between devices," asserts Beecher.

Cellular, and in particular 5G, is expected to be crucial to tomorrow's smart city applications. Offering high-speed, low-latency connectivity, 5G enables faster data transmission and real-time communication, which is vital for enabling smart transportation and remote healthcare. Additionally, smart cities combine myriad use cases, all competing for speed and bandwidth – where again, 5G can deliver.

"Many of these use cases require real-time data communication, as well, so you're creating a scenario where you need powerful, reliable connectivity," says Cohen. "5G cellular connectivity is going to be paramount in supporting smart cities because of its high speed, massive bandwidth, throughput, and low latency. Layered on top of this is the ability to create private mobile networking with 5G. With private networking, smart cities leverage a dedicated network, which offers more reliability, dedicated bandwidth to the specific application, and greater control."

Overhauling infrastructure is essential to bringing smart cities to life: "key to this is 5G, offering ultrafast, low-latency connectivity that can support a wide range of smart city applications, such as autonomous vehicles, real-time data analytics and remote healthcare services, and crucially can be retrofitted in cities much more easily than fibre infrastructure. Outside of the cities, satellite broadband has a vital role to play providing access to support smart city initiatives in remote or underserved areas," says Dominic Smith, marketing director, Cerillion.

Internet of Things (IoT) sensors and devices are another enabling smart city technology, supporting a truly staggering number of applications designed to advance sustainability and quality of life. Street lighting, air quality, traffic control, building maintenance, waste management, utilities, etc., are just a drop in the ocean of potential use cases.

Moreover, a single set of IoT sensors can be utilised for more than one application: "streetlighting is a great example of how a smart lighting network canopy can be used for other smart applications, such as IoT sensors for environmental monitoring, such as air quality," explains Beecher. "Smart devices in one area could as easily be used for other smart applications that are essential to Africa's smart city development. One of the most promising areas is in smart agriculture, such as irrigation control linked with solar generation. Water management is another interesting use case as a way to more sustainable agriculture, and also for detecting leakages particularly in areas of Africa where water scarcity is severe. Smart technology can also play a vital role in creating and managing smart spaces and encouraging citizens to make better use of green spaces."

Fibre, mesh, WiFi, narrowband IoT (NB-IoT), LTE and hybrid solutions, too, will all have their role to play improving digital access and harnessing smart city solutions, however, "the network infrastructure in place must be able to scale to support millions of devices (often from multiple vendors), and future-proof smart city development," says Beecher. "Scalability is key when designing wireless communications for smart cities. The networking technology must be able scale and be highly resilient, capable of providing coverage even in very demanding conditions and where cellular or other communications technologies struggle to cope."

Smith adds that it's not only the physical infrastructure which needs substantial investment, "but also the back-office BSS and OSS which play a crucial role in automating and future-proofing the smart cities of tomorrow. By leveraging the latest Al-powered BSS/OSS solutions, African cities can improve efficiency, sustainability and quality of life for residents, while addressing urban challenges and driving economic growth."

Securing the city

Both consumers and government entities face significant threats from cyber-attacks with the advent of smart cities, however, the nature of the threats and their potential impacts vary.

For governments and local authorities, those in charge of managing smart city infrastructure, public services, and critical systems are prime targets for attack. Bad actors can disrupt essential services, steal sensitive data, or compromise infrastructure for political, financial, or ideological motives. Such attacks targeting government entities can result in significant disruptions, financial losses, and erosion of public trust. (IAN – add Malawi box near here please)

Cohen believes that governments are at a heightened security threat because so much of the information they store is sensitive and could be seen as valuable to bad actors: "if facilities are governmentrun, such as public transportation, traffic and street cameras, or other safety solutions, then these can be targeted in particular. Devices that are accessible in the open, such as cameras, pose a threat simply by the nature of being more easily accessible. This is not to diminish that cyberattacks threaten consumer devices, but more damage can be done and more valuable information accessed by the government. But anything that is connected to the internet is vulnerable to cyberattacks, so creating solutions that have security protocols built in from the very beginning is the best safeguard for both consumers and the government."

That's not to say that consumers don't also face significant threats. Malicious actors can exploit vulnerabilities in IoT devices, mobile apps, or online platforms to steal personal information, commit identity theft, or launch phishing attacks. Compromised IoT devices can be used as entry points for infiltrating home networks, accessing sensitive data, or launching attacks on other connected devices, leading to financial losses, privacy breaches, and reputational damage.

According to Beecher, the government is responsible for setting the pace on security and privacy legislation and ensuring compliance by vendors, suppliers, developers and services providers – designed ultimately to protect consumers: "we already have much stricter privacy laws in other parts of the world, which have increased pressure on organisations to protect sensitive data, including the General Data Protection Regulation (GDPR) in Europe and California Consumer Protection Act in the US."

It's true that, while connectivity suppliers play a crucial role in supporting Africa's smart cities by providing robust infrastructure and innovative solutions, they also hold a significant level of responsibility in securing the network.

"Cybersecurity is a major consideration in any digital use case, but particularly in smart cities," says Cohen. "If public transportation becomes automated, a cyberattack could grind trains and buses to a complete stop and could even threaten public safety."

"Smart city projects like streetlighting and other applications can use hundreds and possibly thousands of devices and sensors, which have the potential to generate huge amounts of data. Even if information is secure, handling it responsibly represents a risk," adds Beecher.

While cybersecurity must go hand in hand with smart city development, "security remains a challenge for many, with around half of respondents citing security enhancement as their number one choice in recent Wi-SUN Alliance research," says Beecher.

Cybersecurity awareness and training can go a long way in helping mitigate risk. Connectivity suppliers can offer cybersecurity awareness programs and training sessions to educate smart city stakeholders, including government agencies,



businesses, and citizens, about cyber-threats, best practices, and preventive measures. Increasing cybersecurity awareness helps build a culture of security and resilience within smart city ecosystems. Moreover, collaboration with cybersecurity experts, industry associations, and regulatory bodies allows connectivity suppliers to stay updated on emerging cyber threats, vulnerabilities, and best practices. By fostering partnerships and sharing threat intelligence, suppliers can enhance their cybersecurity capabilities and proactively address evolving security challenges in smart cities.

Meanwhile, at the network level, end-to-end encryption, network segmentation and access control, intrusion detection and prevention systems (IDPS), regular security audits and vulnerability assessments, and incident response planning, can have a huge impact on securing smart city networks.

"Communications service providers (CSPs) must prioritise security at the network level and also in selecting the devices they use to deliver these services," says Cohen. "They can also offer integrated network security for when customers have their own security systems in place to make it frictionless."

"Taking an authentic layered approach to security is a must for any smart city development, extending from the customer grid-edge to the network, to the substation, and ultimately to the data centre," adds Beecher.

Smart Africa

The creation of smart cities in Africa is essentially a done deal.

"Growing urbanisation, with increasingly limited resources, such as water supply and the demands on clean electricity, will necessitate that utilities adopt smart technologies," says Beecher. "Municipalities have an opportunity to not only improve the efficiency of city infrastructure, but also to improve the quality of life for city residents, to the benefit of all."

"Smart cities are the future, and Africa can see many advantages from embracing smart city functionality into its urban framework," agrees Cohen. "Cameras are a great first point of entry into smart cities use cases as data costs and hardware, together, have become reasonable to support monitoring – even in real-time. These camera-based use cases can later be layered with artificial intelligence to monitor outside of human oversight to detect 'anomalies' such as crime, dangerous driving, and more."

While challenges exist, there is a growing momentum towards embracing smart technologies, and investments in digital infrastructure will be crucial.

"Already, innovation hubs are emerging across the continent, fostering collaboration between governments, private sector, academia and startups, to develop smart city solutions that address challenges in transportation, healthcare, energy and governance," says Smith.

Rampant urbanisation and population growth is one of the key drivers in making African cities smarter.

"Africa is the fastest urbanising region in the world; by the end of the decade, Cairo, Johannesburg, Kinshasa, Lagos and Luanda will all be megacities of ten million residents or more," shares Smith. "As we're seeing with our work at ACUD near Cairo, where a new future-proof administrative capital is being built in the desert, there is a clear trajectory towards leveraging technology to improve urban governance, infrastructure, and quality of life across the continent. With concerted efforts and strategic investments, the vision of smart, sustainable cities in Africa can be realised."

Governments are increasingly recognising the importance of smart city initiatives in promoting economic growth, improving quality of life, and enhancing urban competitiveness, and today, many have launched smart city strategies, policies, and investment programs to accelerate the adoption of digital technologies and drive urban development. Public-private partnerships are playing a key role in driving developments forward, while international organisations, development agencies, and bilateral partners are actively supporting projects with funding, capacity building, knowledge exchange, and technical assistance.

While achieving universal 'smartness' in every major hub will be no mean feat, there is a growing momentum towards integrating smart technologies and principles into urban development strategies. Looking ahead, we can expect to see a proliferation of smart city features and initiatives in many cities, ranging from smart transportation and energy systems to digital governance and citizen engagement platforms. These developments hold the promise of fostering inclusive growth, enhancing sustainability, and improving the overall quality of life for urban residents across the continent.

INTEGRASYS

INTEGRASYS has been awarded at the MSUA Satellite Innovation Awards 3 years in a row at SATELLITE 2024 event in Washington DC.

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the intricate needs of Very High Throughput Satellites (VHTS), High Throughput Satellites (HTS), and satellites across diverse orbits, including GEO, MEO, and LEO. This sophisticated solution is developed for Satellite Operators, Service Providers, and Government Agencies, offering a comprehensive approach to satellite capacity management.

'We are delighted to have won the MSUA for the third year in a row!' Alvaro Sanchez, CEO, Integrasys

The award was received by the company's CEO, Alvaro Sanchez on behalf of the team formed by all the company's employees, recognizing their great effort and merit in obtaining them. This recognition, is added to the seven awards obtained by INTEGRASYS in previous years, demonstrating that the company is aligned with the current needs of the market, making sure to provide products that solve real problems of the customers. As their slogan says, building success from innovation.

Learn more about FlexCap here

MSUA

INTEGRASY

Movers and shakers: Africa's data centre and telco landscape

Africa's telco and data centre industry is in a phase of growth and development, but one that is not without difficulties, seeing pressing power and sustainability questions, on top of a change in demands and end users. Wojtek Piorko, MD Africa, Vertiv; and Peter Lambrecht, vice president of sales, EMEA, Vertiv, outline their thoughts on the sector.

n a global scale, today's demand for data centre space is mainly driven in the USA, propelled by AI applications coming to the fore.

Says Lambrecht: "typically, Europe lags 6-12 months behind the USA, but we are now seeing this change emerge here in Africa too, with demand for more dense applications rising. Hand in hand with this trend is the increasing size of data centres. For instance, what would have, in the past, been considered a large data centre site at 10MW, is now being overtaken with 100MW, 200MW, and even 400MW sites. We're talking about campuses now rather than data centres, and with this comes an increase in rack density, from the old standard of 5-7kW per rack, to 40, 60 and even 80kW. Demand for this type of rack space is growing, and designers are building for the intense needs of AI and high performance computing (HPC) in the future."

Africa versus the world

In Europe and the USA, 10 years ago companies moving into data centre collocation would rent 5.20 racks, which were partitioned within a central location.

"Today, we're instead seeing massive data centres (so-called hyperscale) built for a single client, such as Google for example. In Africa however we're still mainly undergoing the older trends of true collocation – the move to massive, single-client data centres is only just in early stages here," Piorko explains.

Accordingly, over the last few years there has been an influx of globally active data centre players coming to Africa, like Digital Realty and Equinix; they have serious growth plans for the



INDUSTRY VIEW: DATA CENTRES

continent and can meet the demands of the hyperscalers that more regional players just can't. Those same players, and others like them, will be the future of colocation data centres locally.

Currently in Africa there are just more than 100 data centres, but research shows that soon around 700 will be required to meet demand, painting a picture of huge growth potential. This is partly driven by new privacy laws coming in to play, in a context where 70% of data created in Africa is currently stored outside the continent.

Across the region, historically Nigeria, Kenya, and South Africa were the three major hubs for data centre projects - the so-called 'magic triangle.' However, as of 2023, there are two more locations coming into the picture: Egypt and Morocco. According to African Data Centres Association (ADCA), these five hubs alone comprised over 800MW of total IT power.

"To put this type of development into perspective, we must remember that Africa in its entirety should reach growth of 420MW of live, operational whitespace by 2026, and it has taken us 20 years to reach this point," Piorko continues.

Telcos: build or buy?

According to Lambrecht, we're currently witnessing a marked difference between global telco operators in the more mature European/USA markets versus a dynamic local market in which there is increasing investment. For these regions, it's not only the drive to deliver coverage to new areas that were previously unconnected pushing this growth, there are also many upgrades, from 2G to a mixture of 3G. 4G and 5G.

When it comes to data centre real estate, the question of building your own versus outsourcing your requirements remains and because African telco operators already had so much physical space available, the assumption was that they would play an important role in the future.

"Some 2-3 years ago, we anticipated that telco

data centres would be ideal for conversion to recovery efforts" edge data centres, because of their connectivity. But what we've seen is that with edge data centre growth, facilities that no longer fit inside these old buildings, so this space will likely be bypassed," Piorko comments. "To help meet this booming demand - particularly for the specific demand for rapidly deployable modular data centres we're seeing on the continent - Vertiv recently launched a new integrated solution based on mass timber instead of steel, the Vertiv[™] TimberMod. The carbon footprint for the production process can be reduced threefold by using wood instead of steel, which can help meet sustainability goals - a major pressure point for so many industries right now."

Sustaining the continent – sustainably

Sustainability and zero waste are key topics for the continent, just as for the rest of the world.

Data centre servers typically generate heat, which is commonly dispersed into the atmosphere instead of being reused. Fortunately, however, these circumstances are changing. The legislation in Germany, for example, requires heat reuse for future data centre project permits. There are examples in Berlin, as well as in London, where data centre operators are recycling heat to support the local community, for example, to warm hospitals, public pools and shopping malls. And in Norway, a major fish farm leverages data centre waste heat, which maintains the water at a specific temperature ideal for a certain type of fish.

Lambrecht explains that, as data centre temperatures increase in line with expanding rack density and there's a shift to 50-60kW per rack, there will be an increase in waste heat reuse: "instead of having waste heat or water temperature coming out of the data centre at 30°C, in the future, it will be closer to between 60-70°C, making it an ideal fit for waste heat



In Africa, the challenge of consistent electricity supply and grid reliability grows at an accelerated rate. "Vertiv is a role in addressing the power issue with battery energy storage systems (BESS), with the launch of the Vertiv™ DynaFlex BESS announced at the end of 2023, and we are in advanced discussions with several customers in Africa to add this solution to their power protection systems," clarifies Piorko. "Apart from the data centre space, we are seeing many opportunities and strong interest from commercial and industrial markets too. Looking ahead, we expect to see more and more businesses producing their own energy, and on-site generation may become mainstream."

In South Africa specifically, clients are opting for onsite generation with diesel generators due to many years of ongoing rolling blackouts. However, the world is trying very hard to get rid of fossil fuels and thus generators, especially in the data centre industry, due to their environmental impact and cost.

Says Piorko: "Vertiv, together with a consortium of companies, is exploring an innovative integration of solid-oxide fuel cells (SOFC) with uninterruptible power supply (UPS) technology and lithium-ion batteries to provide resilient and clean primary power to data centre deployments and other critical infrastructure. The initiative, called EcoEdge PrimePower or E2P2, is funded by the European Commission and aims to pave the way for the use of green hydrogen for fuel cells application, for both backup and prime power systems. Another trend for Africa, mainly for hyperscalers in the first instance, is a change in data centre design to include longer backup on batteries. Typical colocation sites have batteries that can sustain the full load for about seven minutes, but we're seeing designs with 45 minutes by leveraging lithium-ion batteries."

"For the telcos, we're also seeing a move towards solar power. For example, a central African data centre is successfully using a solar farm as an alternative source of power, able to provide 100% backup. While solar power coupled with battery energy storage can be very efficient for smaller telco or IT sites, larger data centres would require a much bigger footprint which is challenging for many organisations."

The future is exciting - with a data-hungry African population, large number of governmental initiatives and rapidly growing private business, Piorko adds, saying that it is a matter of when rather than if we're going to see these developments: "estimated whitespace available on the continent is set to more than double over the next 2-3 years, and we're already seeing new projects being designed at much higher power density, numbers which I believe will be even higher by the end of 2024. Telcos have historically played important role in Africa's data centre market and already many have built or operate their own facilities, while others are in very advanced design stages. It's definitely a sector to watch, and we may even see some newcomers on the market very soon."



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AMN and Intelsat connect rural Madagascar amidst deluge

ccording to GSMA data, Madagascar has Ferries and dirt roads a Global Connectivity Index rating of 32.5, defining it as an emerging digital market where the adoption of technology is just taking shape. The government is committed to increasing access to digital services, with the Digital and Energy Connectivity for Inclusion in Madagascar (DECIM) project launched in 2023, focusing on deploying infrastructure in under-served areas.

Deploying to the near impossible

Connecting Madagascar is a real challenge; 60% of the population reside in rural areas, most of which are difficult to access and some beyond the reach of the country's power grid.

Nevertheless, Africa Mobile Network (AMN) and Intelsat are working to connect 500 sites in Madagascar in hopes of providing first-time phone broadband services to folks who live and work across the country. The partners have, since 2018, deployed more than 3,000 rural base satellite antennas across Africa, providing telecommunications services to more than 8 million people. Combining Intelsat's multi-satellite African coverage with AMN's solar-powered tower solution means that citizens and businesses in virtually any community can gain access to the education, social and economic benefits of telecommunication services

As well as the topology, additional challenges faced during the project included the fact that it was Madagascar's rainy season - however, AMN specialises in rural deployments, and while the conditions were difficult, techs have significant experience in deployments that would otherwise be impossible.

Vilanandro, on the Northwest coast, is a city of 1,800 inhabitants connected by Route Nationale 4 (RN4), a primary highway to the city of Majunga, and then only by ferry and the RN19 to Soalala. The rainy seasons do not make travel any easier, as roads become impassable.

The AMN team embarked on the 700kmtrip from Antananarivo, the country's capital, to Vilanandro. From the route Nationale and ferries to dirt roads, it took crews over 15 days to make the trip. Techs deployed equipment by carts pulled by livestock and sometimes canoes to carry terminals and equipment to the final destination. All this would not have been possible without the village volunteers, who helped carry equipment on foot to reach the final site location.

A combination of Intelsat's satellite backhaul and AMN's unique site design is used to connect the rural communities like those in Vilanandro to telephone services. The ubiquity of satellite and solar solutions means that no location is too remote

Since the connectivity has been set up, a local farmer who previously had to wait for postal orders can now check everything online, while the school now has access to a broader range of courses available online

First-time connectivity

Jules Degila, AMN's CCO, reported to Southern African Wireless Communications that "in Madagascar, we built 118 sites from December to May, which is the most difficult time of the year to travel and deploy sites in rural and





Livestock and carts are used to pull equipment during the arduous journey. (courtesy: AMN)



Remote locations and rough terrain are the main reasons by satellite is needed in parts of the world. (courtesy: AMN)

isolated areas. In other countries, AMN builds one site on average per day, but in Madagascar, reaching each village, working with the villagers, building and commissioning a site is an adventure filled with unique challenges. We are proud of how our teams were able to adapt and meet these challenges."

As of May, hundreds of thousands of end users have finally been connected via satellite people who previously were entirely unserved by any network coverage. The delivery of first-time connectivity is set to drastically transform lives for the better, ushering the country's populace into the digital economy.

suburban area of Johannesburg, South Africa was constructed as a housing solution for the low-income population. However, despite its residential structures, Cosmo City significantly lacked essential infrastructure – primarily, stable internet connectivity.

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To achieve dependable and affordable last mile internet delivery in the neighbourhood, a novel system was planned without traditional extensive infrastructure like cables, and without high costs for the users.

Last mile mesh

Meshmerize was selected to tap into fibre connectivity available at local hubs like sports bars or schools, which, in combination with directed antennas, enabled the establishment of long-range connections in a very narrow, directed manner between specific points, spanning up to 20km. To cover the local area, Meshmerize stepped in with the mesh network.

The solution was specifically designed as a last-mile wireless broadband design tailored for high-density low-to-middle income communities. By leveraging a novel and patented radio antenna wireless system, it can provide high-speed internet to both fixed and mobile users living in densely populated residential areas.

The antennas are meticulously optimised for both outdoor and indoor router connectivity without necessitating an externally mounted CPE. They possess a flexible mechanical tilt feature, allowing



adjustments between 0° and $\pm 15^{\circ}$. Additionally, users can rotate the antennas anywhere from 0° to 360°, offering extensive coverage customisation.

Powering the network is a low-profile WiFi access node that operates on solar energy, backed by a robust lithium-ion phosphate battery. This battery stands out for its quick recharge capability, ensuring that the system remains operational for over four days even in the absence of direct sunlight. Complementing this is a dedicated power unit embedded with a control board, engineered specifically for autonomous remote solar management, ensuring consistent performance and minimal manual intervention.

Once the directed antenna brings the internet connection to a central location, the actual distribution within the community is handled by mesh access points. Each sector of the neighbourhood (comprising 40-50 houses) is covered by around 10 of these mesh access points. A total of 180 access points were installed to cover the sectors.

Self-healing architecture

The solution's self-healing and decentralised nature today brings the internet to each of the neighbourhood users.

Unlike traditional methods that require extensive planning and infrastructure, mesh networks can be deployed rapidly, adapting to unforeseen challenges on the go. Planning is super flexible, as the devices can be placed without relying on a single, unique location. This solves potential problems that would occur with building infrastructure changes or lack of approval from homeowners to have the devices placed on their homes.

Moreover, even if an access point faces disruptions, the mesh design ensures that data finds an alternate path, guaranteeing uninterrupted service. This resilience comes especially useful in cases of environmental issues such as strong winds or other circumstances that might damage the hardware.

The Cosmo City deployment has proven to be about 40-50% cheaper than fibre-based solutions; since cables don't have to lead to every doorstep and not every house has to have networking hardware, internet access for the provider and the end user is more affordable.

The mesh network management tool Hive plays a pivotal role in overseeing the vast mesh network, ensuring consistent configuration across hundreds of nodes. This centralised management system is instrumental in allocating different channels to various parts of the network, significantly reducing interference and ensuring smooth data transmission. With Hive's oversight, potential



issues can be proactively identified and addressed, guaranteeing that the network maintains its highperformance standards.

Power outages and irregular electricity supply are common woes in areas like Cosmo City, however, Meshmerize's system is designed to be independent of the power grid, ensuring constant connectivity regardless of external power fluctuations. Solar panels found on each of the access points, equipped with a lithium battery, ensures this self-sustenance. Additionally, utilising solar power eliminates the need for any cables in its network infrastructure, which means that the common concerns of cable damage due to construction or other activities are entirely bypassed. A cable-free network ensures a consistent and unbroken connection, reducing vulnerabilities and maintenance needs, and further exemplifying the robustness and adaptability of the network.

The system is designed so that local residents - with minimal training - can perform basic maintenance tasks, ensuring the network's upkeep without the need for specialised personnel. Empowering locals to partake in the maintenance fosters community involvement and creates a win-win situation where local maintainers receive benefits like free internet for their contributions.

The big picture

Beyond residential areas like this one, the potential of mesh in last mile delivery projects is vast. It can be a game-changer in rural regions, disaster-struck zones where infrastructure is compromised, temporary setups like events or festivals, and even in dense urban settings where laying additional infrastructure is either costly or impractical.

Supporting NTN NB-IoT devices for GEO satellites

Anritsu Corporation has extended the functionality of its Signalling Tester MD8430A with the introduction of a protocol test solution for Non-Terrestrial Network



(NTN) devices for geostationary Earth orbit (GEO) satellites.

With the upgrade, the MD8430A can now support NTN Narrow Band Internet of Things (NB-IoT) technologies.

Since the standardisation of NTN communications in 3GPP Release 17, the satellite communication service market has rapidly grown, and various verifications based on the standard specifications have become necessary. For GEO satellites, NTN device vendors need test environments that can simulate the communication delay over a distance of approximately 36,000km between satellite and device. Satellites must also transmit information over this distance to the device for delay compensation. To support these test requirements, Anritsu has developed a protocol test solution that boasts high reliability built on test experiences with market-leading customers and high flexibility in condition setting.

The MD8430A is a base

station simulator that can build a simulated network necessary for the development of chipsets and devices. With its software option NTN NB-IoT (GEO) MD8430A-043 and its control software option NTN over IoT Framework for RTD MX800050A-070, the MD8430A can be connected to an NTN device for GEO satellites, which makes it possible to test the connection with the NTN network and roaming between the terrestrial network and NTN network, among others.

GNSS and Power-over-Fiber meets enterprise needs

HUBER+SUHNER has launched the latest iteration of its Global Navigation Satellite System (GNSS) and Powerover-Fiber solution, which eliminates the need for a separate energy source to power the active antenna for applications that use GNSS for navigation, positioning, timing and geodesy. This avoids voltage spikes, minimises spoofing risk, and enables separate antenna positions for reliable signal transmission.

The latest version has been enhanced to meet the needs of companies, banks and trading firms which require precise time synchronisation. To achieve this, all the nodes in the database cluster must be consistent to ensure the secure transfer of data between data centers and from the cloud to the edge.

"For many companies, banks and trading firms, a software-based enterprise application for precise, time-based coordination and automation is essential for timely and accurate data capture for immediate data analysis." business said Dominik Tibolla, product manager at HUBER+SUHNER. "The success of companies operating across all time zones relies on precise time synchronisation to address challenges such as providing trading data, network component failure, and maintaining company databases."

Synchronising clocks via GNSS provides high accuracy and stability over long distances, with precise time calculation for every location on earth. It provides the most accurate time reference for Precision Time Protocol (PTP) and Network Time Protocol (NTP), two of the most common methods for setting network devices' clocks. Using fibre optics for synchronisation minimises the risk of errors compared to traditional reference methods.



Automatic switching between LMR and broadband

Motorola Solutions' new DIMETRA™ Connect solution and MXP660 TETRA radio allow front-line responders to automatically switch between land mobile radio (LMR) and broadband networks. Together, they help teams stay connected to their communications lifeline, supporting critical collaboration, productivity, and safety.

The design of DIMETRA Connect protects front-line responders' focus by automatically switching between Terrestrial Trunked Radio (TETRA) and broadband networks intervention without manual maintaining users' preferred features and talkgroups. The new MXP660 carries all the hallmarks of a Motorola Solutions missioncritical TETRA radio, with advanced including capabilities. built-in LTE, Al-trained background noise suppression for clear audio and high-power transmission for extended operational range.

PlanAI to empower telcos to increase ARPU

Totogi has launched PlanAl to empower telco marketing and business users to increase and protect average revenue per user (ARPU) with hyper-personalized offers using Al.

Totogi's PlanAl eliminates the need for cumbersome research, analysis, and IT reliance traditionally associated with plan creation, replacing them with instantaneous, Al-derived microoffers tailored to individual users.

Built on top of Totogi's Chargingas-a-Service, PlanAl ensures that individualized offers are both personalized and automatically implemented for maximum impact. Powered by Amazon Web Services such (AWS) technologies as SageMaker, PinPoint, Personalize, and Bedrock, PlanAl leverages a variety of AI services to create revenue optimization campaigns at the individual subscriber level. This advanced use of AI sets Totogi

PlanAl apart from manual plan creation methods and customer value management systems, which require human interaction to create pre-configured plans and offers or systems that are not connected to systems of action.

Traditionally, offers are built in advance using manual processes and rule-based decision-matching. PlanAl flips this process by using advanced machine learning (ML) algorithms and generative AI (GenAI) to analyze customer behavior in real-time and create plan details precisely tailored to individual needs. Plans are configured and activated automatically only once accepted by the targeted subscriber. This approach ensures that subscribers receive optimal and hyper-personalized offers, allowing communication service providers (CSPs) to increase and protect their revenue.

Hughes HL1120W Terminal approved for Eutelsat OneWeb

Hughes Network Systems, LLC new electronically steerable antennabased (ESA) terminal – Hughes HL1120W Terminal - has received Eutelsat OneWeb approval for operation in its low Earth orbit (LEO) satellite network.

This milestone enables Hughes to bring Eutelsat OneWeb's enterprise-grade, low-latency, highspeed connectivity to customers across the globe.

"Using our decades of experience with low Earth orbit systems and our detailed understanding of the Eutelsat OneWeb system, we are delivering a high-performance connectivity solution that brings reliable, enterprise-grade LEO connectivity to remote locations," said Dan Rasmussen, senior vice president and general manager, North America Enterprise Division, Hughes. "Our Managed LEO service currently supports customers in the military, government agencies and public safety communities as well as retailers and energy companies. This technology is a game changer, and we are proud to be working closely with Eutelsat OneWeb to bring our solution to the broader market."

The HL1120W is designed for the outdoor environment. It is lightweight, low-power, weather-tight and easy to install and maintain. It is constructed with a durable aluminium chassis and is configured to function right out of the box with self-pointing to the Eutelsat OneWeb satellite constellation. The HL1120W includes an indoor unit, which provides a WiFi 6 router and 2 GigE LAN ports.

For low-latency applications and service in hard-to-reach places, the Hughes Managed LEO service provides a reliable, high-speed option. As a OneWeb distributor, Hughes can deploy LEO capacity as a managed broadband service, a multi-orbit mobility or enterprise solution, or part of a multitransport Software-Defined Wide Area Network (SD-WAN) or highly specialised military network.



Site Visit Reporting app for real-time information flow

SmartCIC Global Services' new Site Visit Reporting (SVR) application provides real-time information flow from network engineers in field to global support centres.

All 25,000 of SmartCIC's certified network engineers have access to the mobile application with data from enterprise sites managed in a centralised platform. The mobile app enables SmartCIC to deliver information in real-time to its customers and digitalises what is typically an offline and manual reporting process.

The SVR app provides order confirmation, site addresses and hardware requirements to field technicians, with step-by-step instructions for proof of delivery, sharing site photos and templates. It provides a digital track record with GPS logs that confirm engineers are on site and meeting enterprise customer needs. The SVR app enables SmartCIC to check the status of deliverables and make instant changes while an engineer is on site, accelerating deployment times and avoiding costly delays.

"We're continually finding ways to work smarter and add value for engineers in the field, our carrier and their enterprise partners. customers. We developed the SVR app to add another layer of visibility and control to our 'Through the Line' connectivity offering and disrupt legacy field services processes. If you can't deliver critical data in real-time, you can't move at the speed of today's enterprises," said Toby Forman, CEO and co-founder at SmartCIC Global Services. "The SVR app is license-free and designed to remove the friction and complexity from deploying, managing and maintaining local connectivity across the globe."







OO Look out for...

Boosting 6G speeds with curved beams

Future wireless broadband and home networks could be set for a significant speed boost after researchers discovered a way to curve light beams around objects.

The upcoming 6G standard is designed for peak data rates of up to 1Tbps and may be able to harness radio spectrum up to the TeraHertz (THz) bands, while using AI optimisations and new antenna designs to improve network efficiency.

Today's mobile networks usually operate within the lower and mid-frequency mobile bands, such as between 700MHz and 3.8GHz, which enables signals to travel further. This sacrifices speed due to limitations on the available spectrum amounts; however, one workaround is to push mobile and WiFi networks to harness higher frequency bands. The challenge is that these higher frequencies make for extremely weak signals that don't travel very far and are easily disrupted.

Researchers from Brown University and Rice University may have found a solution. The team has discovered a way of 'curving' light beams mid-air to help avoid physical obstacles, reducing the need for a line-of-sight connection. While light in the THz band prefers to travel in straight lines, the team found a rather more accessible approach to achieve a similar sort of outcome.

The researchers have introduced the concept of 'self-accelerating beams,' namely special configurations of electromagnetic waves that naturally bend or curve to one side as they move through space. The photons still travel in a straight line, but the THz signal effectively bends around the object.

Consequences from the curved beams like performance loss and distance limitations are still being worked on by the team, and quantification remains to be seen. However, the theory could prove an excellent boon to the upcoming 6G standard of mobile communications technology.

WORLD NEWS

BT Group implements 'cell sleep' across EE mobile sites

BT Group has implemented energysaving 'cell sleep' technology across its EE mobile sites nationwide, following successful trials in each of the UK's home nations.

'Cell sleep' software works by putting certain 4G LTE capacity carriers to sleep when the capacity is not needed, based on predicted periods of low traffic which have been established for each site through machine learning.

The system then automatically wakes up during busy periods and is also configured to react to unexpected surges which might occur during scheduled sleep modes – in which event, the carriers wake up within a matter of seconds to serve demand without any interruption to customers.

An even lower power state, 'deep sleep', can also be activated if required, for example during overnight periods of extremely low demand.

Both the 'cell sleep' and 'deep sleep' functionality is provided by the respective RAN equipment supplier on each of EE's sites. BT Group's site data is used to inform the statistical algorithms which then autonomously inform the functionality.

"There is huge potential for energy savings across our networks by dynamically matching power consumption against network usage. The optimisation and rollout of cell sleep technology to over 19,500 sites across the UK is a significant milestone in achieving this, and an important development in countering the massive growth in data consumption we're seeing across our networks," said

Greg McCall, chief networks officer, BT Group.

It is expected that the technology will deliver energy savings of up to 2KWh per site per day, or 4.5 million KWh per year across EE's estate, reducing BT Group's demand on the local Grid.

As the largest provider of fixedline broadband and mobile services in the UK, BT Group's networks account for around 89% of its total energy consumption. As such, increasing network energy-efficiency is integral to the group's ambition to become a net zero carbon emissions business by the end of March 2031.



BSNL suffers second breach in 6 months

BSNL has suffered its second data breach in six months - this time, the data has been priced at \$5,000 for anyone to purchase.

According to Athentian Technology, the BSNL data breach has led to the threat actor getting access to sensitive user data such as SIM card details, international mobile subscriber identity (IMSI), home location, and critical security keys. The threat actor -'kiberphantOm' - stole more than 27.8GB of data from BSNL.

This data can be misused by anyone to create duplicate SIM cards, and use in other criminal activities such as

extortion, and more.

The nature of the data that has been accessed by the threat actor is 'critical.' The data leak can also be a threat to national security, as it can be used to target BSNL and other interconnected systems and networks. Having SIM information and authentication keys can also enable hackers to get access to financial accounts, leading to financial losses for the customers.



Elisa starts XGS-PON buildout

Finnish operator Elisa began building its fibre optic network using XGS-PON technology at the beginning of June, paving the way for 100Gbps internet connections.

The new technology is more energy efficient than traditional fibre optic networks.

Elisa noted that Finland is experiencing the biggest change in internet connections in decades as users switch from copper-based xDSL broadband connections to fibre optic and 5G networks. The company mentioned that XGS-PON technology will serve as the basis for data transmission speeds of up to 100 Gbps in the future.

This year, the capacity of Elisa's fibre optic network will increase to 10Gbps, and it will be gradually upgraded towards capacity speeds of 50Gbps and 100Gbps. By the end of 2024, tens of thousands of apartments will already be covered by the new high-speed fibre. The upgraded network will support applications in cloud services, augmented reality, and generative AI, which require significant network capacity.

Orange to deploy Private 5G SA networks for Paris 2024 Olympic and Paralympic Games

For the Paris 2024 Olympic and Paralympic Games, Orange is equipping 15,000 athletes, offering a dedicated range of offers for foreign visitors and relying on 5G Private Stand Alone to connect several major venues.

Orange's services and technological expertise form the backbone of the Paris 2024 Olympic and Paralympic Games. Orange will be on hand to offer the four billion television viewers and 15 million spectators expected to attend the Games the best connectivity experience in the history of the Olympic and Paralympic Games.

As well as equipping 15,000 Olympic and Paralympic athletes with free of charge eSIMs in collaboration with Samsung, Private 5G SA will be deployed at several major venues, including the Stade de France, Arena Bercy and Paris La Défense Arena as well as along the 6km stretch of the Seine for the opening ceremony and at sea at the Marina de Marseille. This technology guarantees broadcasters a premium service with high, stable upload speeds, essential for transporting high-definition images; guaranteed ultra-low latency times for sending images in near-real time; and the benefits of superior security intrinsic to the technology.

WORLD NEWS



Three goes green with Ericsson's AI

Three UK has hit a new milestone in its network sustainability journey with the deployment of next-generation Alpowered hardware and software solutions from Ericsson.

As part of an ongoing network modernisation initiative over the last 18 months, Three UK has worked with Ericsson on improving network energy performance thanks to a combination of industry leading energy efficient radios and the use of Al and data analytics.

Late in 2023, Three UK became one of the first major operators in the UK to deploy Ericsson's awardwinning dual-band Radio 4490, which consumes less power and is 25% lighter than previous models, simplifying site access and speeding up site upgrades.

Combined with the deployment of more energy efficient radios, Three UK has also implemented a series of software features that consume less power per radio during low traffic hours. Thanks to advanced machine learning, passive cooling and powersaving features, the new generation of radio works autonomously across 4G and 5G networks to switch off radio components when not active, while having the capability to switch on again in microseconds for the next service request.

So far, the partnership between Three UK and Ericsson has resulted in an improvement of network energy efficiency of up to 70% at selected sites, all completed while improving network performance but reducing site footprint and lowering CO2 emissions.

"Three UK's collaboration with Ericsson marks a milestone in our commitment to sustainability. We've achieved excellent improvements in energy efficiency while expanding network capabilities for our customers. We plan to take these learnings on board for future projects, ensuring that we continue to improve the environmental impact of our network," said lain Milligan, chief network officer, Three UK.

"Together with Three UK, we are redefining the network of the future and making it both smarter and more energy efficient. To increase network availability and performance while reducing network energy consumption is a testament to the technology and expertise of our two great teams. I am both excited and proud to know that we are building a modern digital infrastructure together that brings not only superior performance for Three customers, but also helps to make the future more promising and sustainable," said Evangelia Tzifa, chief technology officer, networks & managed services, Ericsson UK and Ireland.



16 – 17 July, 2024 Mount Nelson, A Belmond Hotel Cape Town, South Africa

Realising the potential of MVNOs in Africa

MVNO Nation Africa was founded with the simple mission of connecting regional MVNOs with the partners they need to thrive.

This upcoming event will bring together CEOs and senior decision-makers from both aspiring and established MVNO companies, alongside leading operators and the world's most innovative solution providers. They'll gather at Mount Nelson, a Belmond Hotel, to exchange best practices, form partnerships, and negotiate deals.



MVNOs and Operators attend for free

Nokia and Claro begin Colombia's biggest 5G deployment to date

Nokia and Claro have reportedly completed the first stage of Colombia's 'largest 5G deployment.'

The project was completed four months after Colombian authorities issued 5G licenses and is pitched as laying the ground for innovation across industrial sectors including transport, mining, energy and oil and gas.

Nokia is supplying indoor and outdoor kit from its AirScale portfolio including base stations, high-capacity Massive MIMO antennas and remote radio head (RRH) solutions. Nokia will also provide its MantaRay NM solution which provides network management and MantaRay SON for automated operations, network optimization and technical support services.

On top of the 1,000 5G sites Nokia has already set up, a further deal will see the deployment of another 400. The project provides 5G coverage in six of Colombia's largest cities, with plans to cover another 14 cities throughout the year.

Nokia's IP Anyhaul solution will provide mobile backhaul and fronthaul connectivity, based on FP5-based 7750 service routers and 7250 interconnect routers, with operational automation provided by the Network Services Platform (NSP). Claro will also deploy Nokia's 1830 Photonic Service Switch (PSS) platform to provide connectivity across its metro transport network to support traffic 'from aggregation to concentration layers.'

"We are delighted to have our 5G network up and running in record time," said Rodrigo de Gusmao, CEO, Claro Colombia. "5G connectivity is a game changer and its incredible speeds, security and capacity provides the platform to deliver next-level services to our customers as well as a range of industries. We are excited to continue our long-standing partnership with Nokia who will help us lead this 5G revolution."

"We are proud to continue our long-standing partnership Claro Colombia into the with 5G era. The close collaboration of both companies was key to completing this project in record time. Together, we have built the foundations for spearheading the digital transformation in Colombia, which will benefit the society. its citizens and its businesses. Our industry-leading AirScale portfolio will underpin this change with premium-grade capacity, performance and coverage. look forward to continuing this partnership in the years to come," said Tommi Uitto, president of mobile networks at Nokia.

FWA market matures

The number of operators worldwide offering 5G-based fixed wireless access (FWA) internet is growing, reveals the latest Ericsson's Mobility Report.

While the number of telecoms operators offering FWA services has fallen slightly in the past year – there were 241 as of April, down from 245 a year earlier – the proportion and absolute number with 5G FWA services continues to grow. 128 telcos have a 5G FWA offer, or around 53% of the total, up from around 100 in April 2023.

40% of those FWA providers offer speed-based plans, up from 27% last year, which indicates a maturing of the technology. The speed, data handling and low latency capabilities of 5G FWA have increased the attractiveness of this type of plan for telcos, offered to customers within upload and download speed parameters, that are starting to look similar to fibre and cable broadband services.

"The June 2024 Ericsson Mobility Report shows continued strong uptake of 5G subscriptions," said Fredrik Jejdling, EVP and head of networks at Ericsson. "Enhanced Mobile Broadband and Fixed Wireless Access are the leading use cases, with signs that 5G capabilities are influencing service providers' Fixed Wireless Access offerings."

Around 300 operators worldwide have now launched commercial 5G



offerings and in the first quarter of this year they collectively added 160 million new subscriptions, taking the number of 5G subscribers worldwide to 1.7 billion.

Overall, there were 130 million FWA subscribers in the world at end-2023, fewer than a third of which were 5G connections. It forecasts that the total will grow to 330 million by the end of 2029, of which close to 85% – some 280 million – will be over 5G.

As it stands, North America leads the FWA market in terms of maturity, with four major operators together claiming 9 million customers as of Q1 this year, up from 5 million a year earlier.

The Asia-Pacific is the largest market based on volume, and will increase its share in the years to the end of the decade. Almost half of the global total 5G FWA customers at end-2029 will be located in the region, up from 39% today.

3 Sweden to support Proptivity's connected properties

3 Sweden (Tre) and Proptivity have announced a deal under which Tre will integrate its mobile services into Proptivity's connected properties.

This will provide tenants and visitors with 5G service at gigabit speeds throughout the properties, Proptivity said in a statement.

According to Proptivity, this collaboration marks the first operator partnership following the Swedish model for shared highcapacity indoor mobile networks, allowing operators seamless connectivity access. Through this agreement, Tre will integrate its mobile services into Proptivity's high-capacity shared mobile infrastructure for properties.

"Before this agreement, old indoor technology was used that no longer meets the standards and consumes much more energy than the modern systems we deliver. Our collaboration with Tre shows that together we want to provide property owners, companies, and mobile users with the best possible connectivity in an environmentally optimised way," said Proptivity in a statement.

Modern energy-efficient buildings often hinder radio signal penetration, necessitating indoor networks to maintain mobile coverage. This issue coincides with the growing demand for indoor connectivity, particularly with the increasing use of data-intensive services like video calls. As such, Tre's agreement with the neutral host follows a test at the Ahlen's department store building in the Oestermalm district of central Stockholm and uses Ericsson's Radio Dot System.

Proptivity cited a report from Sweden's property advisor Newsec, which says that 89% of Swedish companies see connectivity as a must when choosing their next premises. Furthermore, 68% of companies are willing to pay higher rents for properties with excellent connectivity.

"We are proud to offer our corporate customers the best possible solution for high-capacity indoor 5G. This is important for the future digitisation of our society, as it enables faster, more efficient, and reliable connections and opportunities for network sharing in buildings," said Tre Sweden.



Deutsche Telekom expands mobile coverage at 651 sites in Germany

Deutsche Telekom has announced the expansion of mobile coverage at 651 sites in the past four weeks, up to 18 June 2024.

Telekom said this initiative includes the construction of 87 new locations capable of delivering both 4G and 5G frequencies. Additionally, the company has increased capacity at 564 existing sites, with 69 now transmitting 5G for the first time.

On the 3.6GHz frequency band,

Deutsche Telekom now operates approximately 11,900 5G antennas, providing coverage across over 900 cities and municipalities. Users can experience download speeds of up to 1Gbps, significantly enhancing connectivity across Germany.

Deutsche Telekom highlighted that more than 96% of households can access its 5G network, while 99% have access to 4G services. Looking ahead, Telekom aims to achieve 99% population coverage with 5G by the end of 2025.



Softbank completes nullforming trial for HAPS spectrum sharing

In April 2024, Softbank successfully conducted a field trial using its cylindrical antenna for High Altitude Platform Station (HAPS) stratospheric-based wireless communication systems at Hokkaido Spaceport, Taiki Town, in Hokkaido, Japan.

The trial successfully demonstrated the use of nullforming technology to achieve spectrum sharing between HAPS and a terrestrial base station.

The field trial was conducted as part of Softbank's R&D initiatives to enhance communication technologies used with HAPS. The company is conducting R&D on spectrum sharing to enable the deployment of communication services that use the same frequency for both HAPS and terrestrial base stations.

To effectively use finite spectrum resources, SoftBank is considering the use of cylindrical antennas as antennas for 'service links,' which handle data transmission and reception between HAPS and communication devices. The company is also developing nullforming technology, which significantly suppresses radiowave emissions in specified directions to reduce interference. By preventing interference, it is possible to achieve spectrum sharing between HAPS and terrestrial base stations, thereby utilising the spectrum effectively.

In the field trial, SoftBank placed a terrestrial base station within the communication area of a highaltitude tethered aerostat equipped with a cylindrical antenna (airborne base station). Mobile Device A was placed within the communication area of the airborne base station while Mobile Device B was positioned in a geographically close location within the communication area of the terrestrial base station. The same frequency was used for both the airborne base station and the terrestrial base station, and the communication speeds of Mobile Device A and Mobile Device B were measured based on whether nullforming technology was applied.

Through this field trial, it was observed that the application of nullforming technology improved communication speeds the of Mobile Device B without significantly degrading the communication speed of Mobile Device A. Furthermore, by applying nullforming technology, interference between both base stations was reduced, confirming that Mobile Device B achieved communication speeds equal to those in an environment without radio interference when the radiowaves from the airborne base station were halted to prevent interference.

According to the company, the field trial confirmed the feasibility and effectiveness of spectrum sharing between airborne base stations and terrestrial base stations using nullforming technology in actual outdoor environments.

Luna Space picks Hughes for VSAT network

Luna Space Telecommunications Co. Ltd., has purchased a JUPITER™ System Gateway as well as 1,200 Hughes JUPITER Terminals to transform its VSAT network.

Skyband can provide customers with higher speeds and throughput, reach even more of the kingdom's unserved and underserved areas, and introduce a new mobility offering.

"Skyband has been a valued customer of Hughes for over a decade, and we're grateful they have turned to us again to upgrade their VSAT network to serve their customers better," said Vaibhav Magow, vice president, international division. Hughes. "The Hughes JUPITER System is the de facto standard for satellite implementations worldwide. By upgrading to the latest JUPITER System technology, Skyband will be able to attract new customers and bring new capabilities to market."

Skyband provides the latest satellite network infrastructure through multiple hubs to enable the corporate and government sectors in Saudi Arabia to increase their productivity and help achieve their digital transformation goals. By migrating its existing network to the more efficient Hughes network, Skyband will expand into new government, financial, and oil and gas markets and offer new features such as software-defined wide area networking (SD-WAN).

"We've always been able to count on Hughes to provide us with leading satellite broadband solutions," said Fouad Nasser, chief business officer, Skyband. "Over that time, Hughes has been a true partner in helping us equip our customers with the connectivity they need to grow and achieve their digital transformation goals."

Globe transfers more towers to PhilTower

Globe Telecom has announced more mobile site transfers to PhilTower for a capital injection to pay down debts.

The operator revealed it closed the sale of 48 sites to PhilTower Consortium for PHP710 million. In total, Globe transferred over 1,148 out of the 1,350 sites PhilTower agreed to buy in 2022 for PHP20 billion.

Globe said the cash will be made available for future capex spend, debt

repayments and debt avoidance.

In 2022 Globe made deals to sell off 5,709 towers and other passive infrastructure for PHP71 billion. Operators in the Philippines have been leading the trend of selling off towers to raise capital to balance the books, as profits and revenues stagnate.

Globe reported a net income of PHP6.8 billion in Q1, down by 7% year-on-year - an impressive feat given global and local economic tensions.

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