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Cable outage chaos
Can societies depend on 6G?





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GSMA: mobile money vital for Nigeria's digitalization

The GSMA sub-Saharan Africa Team has released 'The Role of Mobile Technology in Driving the Digital Economy in Nigeria,' which highlights the crucial role of the mobile sector in Nigeria's economic development and emphasizes that connectivity to mobile services, including mobile money, are the foundation upon which digitalization is built.

According to the report, the telecom sector directly contributed 8% to Nigeria's total GDP in 2023.

However, when considering the wider ICT industries' value-added contributions, this figure increased to 13.5%. The mobile industry's cumulative contribution to Nigeria's GDP reached an estimated 20 trillion NGN in 2023, accompanied substantial bv tax revenue contributions totaling 2.8 trillion NGN. It also highlights that only 29 percent of Nigerians regularly use mobile internet, indicating 71% of substantial untapped potential



in the market.

The GSMA predicts that with an improved policy environment, the industry could enhance coverage and adoption, leading to an additional 15 million internet users by 2028. However, the sector encounters challenges in infrastructure deployment, particularly the complex and costly process of securing Rights of Way (RoW), which significantly prolongs the time and increases the costs associated with infrastructure rollout.

The report also explores the transformative potential of the telecom sector in enabling digitalization across key industries and projects that by 2028, sectors such as agriculture, manufacturing, transport, trade, and government are poised to witness a remarkable GDP increase of approximately 2 percentage points.

The report offers actionable recommendations to policymakers, aimed at creating an economic and regulatory environment conducive to growth, investment, and competition. These recommendations include implementing a legal framework for Critical National Infrastructure, simplifying and improving the process for issuing Rights of Way (RoW), reducing the industry's tax burden to enhance operating efficiency, and creating a regulatory environment that fosters sustainable investment.

"High-speed connectivity is the bedrock of any digital nation, and the Nigerian government recognizes the mobile industry's role in laying key foundations on which digital transformation is built. Future policies should be geared towards reducing the cost and complexity of infrastructure rollout to encourage investment and boost the adoption of mobile broadband. The impact of such actions would go far beyond mobile, driving productivity gains across the economy and creating millions of new jobs in Nigeria," said Angela Wamola, head, GSMA Sub-Saharan Africa.

"The telecommunications sector is the backbone of the digital economy. A country like Nigeria has significant opportunities to contribute to the world, but this is impossible without diversifying the economy," said Bosun Tijani, minister of communications, innovation, and digital economy, Nigeria.

Kenya's treasury proposes new MoMo taxes

Kenyans will soon begin paying extra for airtime and mobile money transfer costs under new taxes suggested by the country's Treasury.

The plans are included in the 2024 Finance Bill, as the government aims to raise an additional Sh323 billion in taxes in the financial year beginning in July 2024. The tax on mobile airtime and data rates has been increased to 20% from 15% in the new Finance Bill. The Bill also seeks to increase the excise duty on mobile money transfer fees and cash transactions in banks, money transfer firms, and other financial service providers to 20% from 15%.

Accordingly, telecommunication companies will now be obliged to increase transfer and withdrawal fees to cover the higher tax burden imposed by the government. The move now forces Kenyans who earn money through digital marketplaces including as taxi hailing and food delivery to pay a 1.5% digital service tax. Meanwhile, foreign companies such as Amazon, Alibaba, and Netflix who sell goods and services on a digital platform but do not have a physical presence in Kenya will now be required to pay the Economic Significant Presence Tax, which is calculated at 20% of their gross income.

The law defined 'digital marketplace supply' as any supply of a service produced through a platform that allows purchasers and sellers of services to communicate directly via electronic means. It covers a wide range of taxable services, from downloadable digital content to subscription-based media. The government expects that these plans will help it meet its income targets, which have been falling short.

However, these high fees, particularly on mobile transactions, could jeopardise Kenya's emergence as a digital hub. Due to the hefty taxation, several small businesses in the country are apparently switching to cash instead of mobile money payments.

Liquid to distribute Eutelsat LEO satellite services

Liquid Intelligent Technologies has signed distribution partner agreement with Eutelsat Group, which will make enterprise-grade LEO services available in Africa.

The strategic integration of the OneWeb LEO satellite network enables its Liquid Dataport to provide not only low-latency satellite services. but also a network interconnect that enables service integration across the LEO satellite access and Liquid Dataport core network infrastructure.

"On a continent where satellite is relatively technology new and limited in its reach, for Dataport's customers, Liquid this translates to enhanced performance for applications like cloud computing, video conferencing. and real time applications, among others," said Liquid in a statement.

The collaboration signifies a

milestone in bringing LEO services to customers across multiple countries in Africa, empowering them with high-speed solutions and new possibilities for connectivity.

"Working together and leveraging Eutelsat Group's innovative LEO services, we can unlock new opportunities for enterprises and communities," said Philippe Baudrier, VP connectivity, Africa.





Togo calls for mobile QoS campaigns

The Regulatory Authority for Electronic Communications and Posts (ARCEP) wants to carry out two campaigns to control the quality of services of 2G, 3G and 4G mobile networks throughout the Togolese territory for this year. The regulator launched a call for expressions of the initiative

The two campaigns will cover all the localities indicated on the final

Nigeria announces second U-turn on taxes

For the second time in a little over one year, the Nigerian government has thought better of a plan that would tax mobile communications users, this time for a levy intended to raise money to enhance cybersecurity.

The planned levy on domestic money transfers to fund cybersecurity has now been suspended. The idea was that all banks and mobile money operators would be obliged to charge 0.5% of the value of electronic transfers as part of efforts to fund cybersecurity.

According to Reuters, the perceived need for the new levy is partly to be down to cryptocurrency, which authorities have blamed for Nigeria's currency weakness. Reuters said that the Nigerian naira has hit record lows due to dollar shortages as crypto transactions in the country have flourished.

However, it's that same weakness that has caused a backlash against the planned levy. There has been widespread public criticism of the scheme as the cost of living rises and the value of the official currency falls. Accordingly, information minister Mohammed Idris announced that the government had decided to put the cybersecurity tax policy implementation on hold.



list which will be adopted and will consist of measuring service quality indicators from mobile terminals connected to test call generation platforms. Each national campaign will last 75 days, including 60 days of field measurements.

ARCEP is required to guarantee interest to recruit a firm to support telecom consumers quality telecom services. When the regulatory thresholds are not respected. it can take coercive measures

An EchoStar Company

against the offenders

The last campaign to control the quality of telecom services was held from 4-31 December 2023.

national "This measurement campaign revealed that the quality of voice and Internet services offered by the two mobile operators experienced a slight improvement even if the compliance levels observed remain far from regulatory obligations," reported ARCEP in February 2024. The study

showed that the non-compliance rates are 46.84% for Togo Cellular and of 57.65% for Moov Africa Togo.



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Afreximbank and MobiHealth team up on telemedicine for Nigeria and beyond...

The African Export-Import Bank (Afreximbank) and MobiHealthCare Limited (MobiHealth) have signed project preparation facility а agreement that is expected the to bolster expansion of Mobihealth's telemedicine services in Nigeria, as well as assessing the feasibility of establishing similar services in Egypt, Ghana, Kenya and Cote d' Ivoire.

Afreximbank will part-finance project preparatory activities that will leverage MobiHealth's successfully integrated telemedicine proprietary platform, initially piloted in Nigeria, to the four additional countries. This initiative is expected to rapidly lead to the establishment of a network of telemedicine clinics across Africa, fully equipped with out-patient facilities. The project preparation facility of up to US\$1.5 million is expected to advance the Project to bankability, whereupon this is expected to unlock further investments estimated at US\$65 million.

The preparatory facility will expedite the deployment of digital healthcare solutions, enhancing access and efficiency, and quality healthcare. MobiHealth's platform utilizes local and diaspora medical professionals who are able to diagnose and prescribe to patients remotely. This reduces waiting and travel times, provides new ways to serve harder-to-reach population and removes barriers for the underserved population.

The MobiHealth transaction was originated from the Africa Investment Forum (AIF) platform under its flagship 'Women as Investment Champions' initiative. Afreximbank is one of the founding partners of the AIF. The AIF has been instrumental in mobilizing a US\$1.0 million grant for MobiHealth from the United States Trade and Development Agency (USTDA).

"This initiative will fundamentally reshape the delivery of healthcare services with broader implications for healthcare services across the continent," said Mrs. Kanayo Awani, executive vice president, Intra-African Trade and Export Development Bank, Afreximbank. "We will not only be embracing digital technology but also harnessing the same to help our member countries accelerate their progress towards the attainment of Universal Healthcare Coverage, and improve equitable access to quality, affordable healthcare. Afreximbank is pleased to join USTDA to support bankable studies and services to ensure advancement of this impactful health project."

"The signing of this facility agreement marks yet another significant milestone in MobiHealth's quest to proffer digital healthcare solutions across the continent. We are thrilled to have the support of Afreximbank. a pan-African multilateral financial institution with the scale and capacity to enable us to achieve this objective in a timely manner. Their involvement is a strong validation for our business model and I would like to laud Afreximbank, AIF and USTDA for their visionary leadership and steadfast commitment to support the provision of quality healthcare to African citizens," said Funmi Adewara, chief executive officer and the Project Sponsor, MobiHealth.

Algeria and China join forces on digitalization

A new Memorandum of Understanding (MoU) will see Algeria and China collaborate in the field of digitalization and the digital economy.

As part of this partnership, the two countries will examine avenues of cooperation in various digital fields. Training and transfer of expertise will also be implemented to strengthen local skills and promote technological innovation. This collaboration will allow Algeria to benefit from Chinese experience and IT, facilitating modernization and economic development objectives.

In addition to the focus on training and technology transfer, specific projects could include the development of advanced digital infrastructure, the improvement of public services through digitalization, and the creation of an enabling environment for technological innovation and digital entrepreneurship.

Morocco readies for medium term 5G

Morocco has initiated several projects to prepare for the medium term launch of 5G, reported Ghita Mezzour, minister delegate in charge of digital transition and administrative reform.

The projects concern the reconfiguration of the frequency spectrum, the release of frequency bands for 5G and the connection of base stations to fibre optic links. The launch of 5G

also requires a reconsideration of the economic model to adopt.

The launch of 5G in Morocco comes under the 'Maroc digital 2030' strategy which aims to modernize the country by using digital technologies to stimulate economic growth, improve public services and ensure broader digital inclusion. In addition, 5G is part of the requirements as part of Morocco's bid to host the 2030 World Cup with Spain and Portugal.



Work slow on Chad's DTS component

Boukar Michel, Chadian Minister of Telecommunications and Digital Economy, has spoken out against

the slow pace of work on the Chad component of the Trans-Saharan Optical Fiber Backbone (DTS).



"The observation is that the work is not progressing and this move will probably lead us to take a drastic decision unfortunately. I am not completely satisfied," said Michel.

Work on the Chadian component of the DTS was launched in May 2023 and was scheduled to last ten months. The project consists of a 559km road to the Nigerien border and a 50km metropolitan network in Ndjamena. Its completion is expected to cost 20.5 billion CFA francs and is financed by the European Union and the African Development Bank (AfDB). The Chadian state contributes 1.6 billion FCFA.

Telecom Egypt and Huawei join forces on cloud

Telecom Egypt and Huawei Cloud have joined forces to launch Huawei's first locally based public cloud platform in Egypt and North Africa.

This launch aligns with Telecom Egypt's strategy to position Egypt as the premium regional digital hub and underscores Telecom Egypt's and Huawei's commitment to enabling Egypt's transformation in the digital era.

Hosting Huawei Cloud in Telecom Egypt's data centres ensures seamless reachability to more than 60 countries around the globe, capitalising on more than 14 submarine cable systems,

which are set to increase to 18 cable systems by 2025, in addition to the massive national reach of enterprises and SMEs in Egypt.

By introducing Huawei Cloud, Telecom Egypt and Huawei are showcasing their commitment to delivering cutting-edge technologies



and services that cater to the evolving needs of the market. Additionally, launching the cloud is expected to generate a multitude of job opportunities for youth in Egypt and many countries in North, West and Central Africa.

"We are thrilled to host Huawei Cloud in Telecom Egypt's stateof-the-art, Tier III-certified data centre located in the Smart Village Campus, which is connected to EG-IX, an open access internet exchange platform, and a fully meshed subsea and terrestrial network that connects Huawei Cloud to the globe," said Mohamed Nasr, managing director, and chief executive officer at Telecom Egypt.

Telecom Egypt's hosting services will enable access to all networks in Egypt, "supporting businesses and contributing to Telecom Egypt's vision of becoming a thriving global digital hub through its associated ecosystem," added Nasr.

Niger installs QoS committee

The Nigerien Ministry of Communication, Posts and the Digital Economy has created a committee responsible for dealing with quality of services and the rehabilitation of damaged sites in insecure zones.

The members of the committee were officially installed mid-May by minister Sidi Mohamed Raliou at the Regulatory Authority for Electronic Communications and Postal Services (ARCEP) offices.

The committee's missions include assessing the quality of services, studying regional best practices, proposing an action plan, monitoring the implementation, and resupply and rehabilitation of telephone sites in insecure zones.

The creation of this committee follows a meeting in January wherein sector stakeholders identified damage to infrastructure in insecure areas as a major cause of the deterioration of telecoms services in Niger. It was recommended to establish a permanent framework for exchanges to resolve the problems.

Guinea's mobile subscribers expand 97.4% yoy

Guinea had 7.7 million subscribers to mobile internet services in 2023, according to the Post and Telecommunications Regulatory Authority (ARPT). This represents 97.4% growth compared to the 3.9 million subscribers listed in 2023. Additionally, service penetration rate increased from 33% to 56.2%

over the period.

The growth can be attributed to the increase in the number of subscriptions to mobile telephone services. The number of SIM cards connected to mobile operator networks increased from 11.9 million to 14.1 million.

Moreover, between the fourth

quarter of 2020 and the fourth quarter of 2023, mobile internet traffic increased from 19.6 million gigabytes to 50.8 million gigabytes.

If mobile internet adoption continues its growing trend over the coming years, it could help accelerate the realization of the Guinean government's digital transformation ambitions.

Ethiosat's market penetration hits 95%

SES' Ethiosat platform now supports content reach to 17 million TV households in Ethiopia, marking a substantial increase of seven million compared to 2022.

This growth has led to a 95% market penetration. The Ethiopian TV market has witnessed a surge, with the number of TVs owned by households skyrocketing by 400% since 2017 to 18.2 million. The penetration of HD homes has also seen a substantial rise, from 48% to 62% since 2021, with Ethiosat's number of HD TV channels growing from 15% to 62%.

Ethiosat is Ethiopia's first-ever dedicated free-to-air (FTA) TV platform, hosted on SES's NSS-12 satellite. The platform is a result of an agreement between the Ethiopian Media Authority, Ethiopian Space Science, Ethiopian Broadcasting Corporation (EBC), Association of Ethiopian Broadcasters (AEB) and SES to consolidate all Ethiopian TV channels and broadcast them from one orbital position.

"We are proud to be part of the growth of the Ethiopian TV market

through the Ethiosat platform. The increase of TV households in the country and the penetration of the platform confirms the importance of Ethiosat as an established source audience rely on to watch their favourite local programming in the best quality possible," said Norbert Hölzle, global head of media at SES.



Paix Data Centres grows Ghana capacity to 1.2MW to meet demand for digital infrastructure

PAIX Data Centres has increased its capacity in Ghana to 1.2 MW to assist in meeting increasing demand for access to digital infrastructure.

The Ghana data centre is now one of the country's largest, and will improve access for internet service providers, cloud providers, and entrepreneurs to the digital infrastructure and increased connectivity necessary for online businesses to grow.

According to PAIX, the existing installed capacity of 250MW would need to be greatly enhanced to fulfil

the rapidly expanding demand for data, with consumption predicted to rise by 40% annually until 2025. The upgraded facility includes enhanced cooling and waste management technologies, as well as increased integration of renewable energy as a power source, to improve environmental effect.

"As one of Africa's digital economy hotspots, Accra plays a vital role in driving innovation and growth across various industries," said Bright Tawiah, managing director, PAIX Data Centres, Ghana.



Kenya Space Agency outlines 2023-2027 vision

The Kenya Space Agency board and management has launched the KSA Strategic Plan 2023-2027.

The strategic plan outlines the path for the Kenya Space Agency's (KSA) aspirations to nurture Kenya's emerging space economy, aiming to significantly contribute to national socioeconomic development over the next five years. Aligned with the KSA's objective of the 'effective utilisation of space capabilities for national development,' the plan focuses on six key areas for the implementation of the Kenyan space programme during this period: coordination and regulation of space activities; national space capability development; utilisation of space services and technologies; space research, innovation development; and resource mobilisation; and strengthening institutional capacity.

H.E. Hon. Aden Duale said that the strategic plan aligned with the national development agenda and priorities highlighted in Kenya's Vision 2030, Medium-Term Plan IV and sought to contribute to realisation of the Bottomthe Up Economic Transformation Agenda while also addressing other international and regional goals stipulated under the UN 2030 Agenda for Sustainable Development and African Union Agenda 2030.

NCC halts new licences for VAS, MVNO and IX

The Nigerian Communications Commission (NCC) has announced a temporary suspension on the issuance of new licenses in interconnect exchange, mobile virtual network operator, and value added service aggregator.

This decision is aimed at allowing the Commission to conduct a thorough review of competition levels, market saturation, and market dynamics within these categories.

The suspension will not affect pending applications, which will still be evaluated on their merits. Stakeholders are advised to take note of this development as the NCC seeks to promote fair competition and further develop the communications industry.



Sonatel to launch 5G in June

Sonatel (Orange) will launch commercial 5G mobile offers on 1 June, reports Sékou Dramé, general manager of the company.

Customers equipped with compatible terminals will see download performance up to 10 times faster than 4G with a smoother and more immersive user experience. This will facilitate realtime applications, such as online games, virtual reality, telemedicine, e-education, and more.

Sonatel acquired the first 5G operating license in Senegal from the Telecommunications and Postal Regulatory Authority (ARTP) for 34.5 billion CFA francs. The launch of Sonatel's mobile 5G should make it possible to democratize the service in a Senegalese telecoms market dominated by mobile consumers. This will also strengthen competition and truly launch the battle in the 5G ultra-high-speed connectivity segment in Senegal.

"5G is about more than just a technological improvement; it is a catalyst for economic growth for Senegal. By delivering ultra-fast connection speeds, low latency and increased capacity, 5G will help drive innovation, energize businesses and improve public services, opening up new opportunities for all," said Dramé.

Vodacom and Orange discuss infrastructure sharing

Vodacom and Orange are reportedly in talks to share infrastructure in Africa to cut network costs and deploy coverage in remote locations.

According to Bloomberg, the talks surround infrastructure in Egypt and the Democratic Republic of the Congo. Vodacom told Bloomberg that a partnership between the operators could include network sharing and joint deployment in hard-to-reach rural locations. This would potentially alleviate costs and narrow the digital divide.

Africa has been highlighted as a bright spot for the Orange Group with consecutive quarters of revenue growth. In its recent Q1 2024 results Orange reported double-digit revenue boosts in its Middle East and African operation. Revenue grew 11% to €1.8 billion year-on-year. However, Vodacom revealed in its results net income dipped slightly by 2.8% to ZAR 16.3 billion, despite revenue being up by 26% to ZAR 150.6 billion.



TCI to deliver spectrum monitoring for NTRA

TCI will provide additional spectrum monitoring capabilities to Egypt's National Telecommunications Regulatory Authority (NTRA) under a new contract secured in partnership with EGPowers.

A mesh monitoring network formed by 20 differently configured TCI Model 709 compact spectrum monitoring systems (SMS) will be deployed to strengthen the NTRA's ability to manage and optimize its telecommunications services. These capabilities will be especially critical as the NTRA has recently licensed Egypt's first 5G network.

Most of the 709 systems will be fixed across 16 sites. Four will be fully transportable or vehiclemounted, which increases the network's flexibility. Such mobile systems allow spectrum monitoring

in rural areas where fixed systems are not feasible or in urban settings where they can locate an interfering or illegal transmitter.

The 709 provides high system sensitivity, low phase noise and high dynamic range to maximise system coverage and ITU measurement capabilities. This results in fewer systems required for monitoring and geolocation across large areas. TCI and EGPowers partnered in 2015 to deliver a mobile monitoring and direction-finding system to NTRA covering the 20MHz to 8GHz bandwidth, with an additional frequency extension up to 40GHz. With the new NTRA contract win, EGPowers will be responsible for the installation, set-up, and ongoing support of the network of TCI spectrum monitoring sensors.

Angola Cables and Camtel team up on connectivity

Angola Cables is partnering with Camtel to expand digital and connectivity services in Cameroon and the West Africa region.

The agreement follows an intent by both parties to develop business opportunities in West Africa and the Atlantic region to boost redundancy, network resilience and the quality of services (QoS) both nationally and internationally. Taking advantage of the subsea cable connections of SACS, WACS, and Monet within the robust backhaul network of Angola Cables and the added connectivity provided by Camtel on the South Atlantic Inter Link (SAIL), businesses and enterprises will have extended capacity options with a better traffic access to West Africa local and regional networks through Angola Cables and Camtel's Points of Presence (PoPs).

"Our strategic intent is to build on the robust backhaul connectivity of the Angola Cables network, and the existing interconnections we have in place with other submarine cables connecting the region and the world, to provide flexible and secure value added services for our clients and businesses," said Judith Yah Sunday Epse Achidi, CEO, CAMTEL.

"The agreement signifies an important step in advancing telecoms and digital connectivity in Africa," said Fernando Fernandes, country manager, TelCables Nigeria, a subsidiary of Angola Cables. "For users, it will help to secure connectivity, trade, boost economies and help expand as well as grow businesses across the region."



Orange Microfinances Guinée to offer financial inclusion

Orange Group has launched Orange Microfinances Guinée (OMIG) to offer inclusive and accessible financial services to local populations via their Orange Money account.

This initiative aims to enrich the value proposition for Orange Money customers by offering services at reduced costs to people excluded from the traditional banking system and to banking customers looking for change.

OMIG is committed to making access to mobile financial services more equitable, regardless of geographic or socio-economic barriers. The microfinance company distributes the Tik Tak digital loan and savings service, with a fully digitalized customer journey, as well as attractive conditions.

This new Tik Tak offer in Guinea, which is inspired by the successful experience on the Ivorian market by Orange Bank Africa, allows Orange Money account holders to borrow between 50,000 and 1,500,000 Guinean Francs (GNF) in less than 10 seconds, and to subscribe to savings ranging from 10,000 to 50,000,000 GNF, with an annual remuneration of 3%.



"Through the launch of Orange MicroFinances Guinée, the Orange Group confirms its ambition to become one of the pillars of financial inclusion in Africa, by simplifying people's access to financial products via mobile," said Jean-Louis Menann-Kouamé, managing director of Orange Bank Africa.

Orange Bank Africa provided technical support for the operationalization of Tik Tak in Guinea and is convinced that the offer will have the same impact as in Ivory Coast.

🚫 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 set out 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 6G

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 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.

Airtel Africa negotiates \$200 million loan for CAPEX requirements

Airtel Africa is negotiating a \$200 million loan from the International Finance Corporation (IFC) to cover its capital expenditure (CAPEX) requirements and refinance existing debt in the Democratic Republic of Congo (DRC), Rwanda and Kenya.

The CAPEX component will be oriented towards the modernisation of Airtel Africa's telecoms network.

This involves purchasing active equipment at 4G sites such as antenna, software updates, packet core, transceiver base station. The company will also strengthen its fibre optic capacity.

In December 2022, Airtel Africa obtained initial financing of 194 million from the IFC to support its activities in the DRC, Kenya, Madagascar, Niger, DRC, and Zambia. The

initiative is part its growth strategy in a context of increased competition in the African telecoms market.

Paratus signs up first Paratus Express Route client

BSO has been named Paratus Group's first the financial customer for the recently launched Paratus industry. Ou Express Route. This ground-breaking fibre express rou route provides the fastest connectivity also marks between Johannesburg and Europe, with a significant latency of just 123ms.

"We are excited – not only to be the first customer on the Paratus Express Route but also because this reinforces our promise of providing the fastest and most reliable connectivity solutions across the globe. This is a very significant and pioneering collaboration that translates to offering the lowest latency route between Johannesburg and London to the enterprises that need it most," said Michael Ourabah, CEO at BSO.

The Paratus Express Route, which runs from Johannesburg to Swakopmund via Botswana, connects to the Paratus-landed Equiano subsea cable, providing a direct link to Lisbon, London, and the rest of Europe.

"Our partnership with BSO underscores the value of the Paratus Express Route for network service providers and their financial services clients," said Martin Cox, chief commercial officer at Paratus Group. "By combining our local expertise with global reach, we are uniquely positioned to meet the critical connectivity demands of The company is also looking to strengthen its balance sheet by continually reducing its debt at group level and localising it within the operating companies.

"The expected results at the project level build on those of previous transactions and involve increased access to quality connectivity for individuals and businesses by supporting the expansion of broadband networks in the DRC, Kenya and Rwanda over the next few years. Beyond the project, this operation should help increase the competitiveness of the mobile connectivity market in target countries by promoting the pursuit of technological innovation through competitive channels," said the IFC.

Broadcasters complain of Ethiosat costs

Local radio broadcasters in Ethiopia are protesting against the cost of their presence on Ethiosat, a bouquet dedicated to local television.

According to Ethiopian channels, the level of payments required to stay on the platform is unfair. The first complaints were made on 7 May during the East Africa Broadcast And Digital Media Convention.

Since then, local broadcasters have launched a petition to reduce the fees to be paid to be present on Ethiosat. According to the petition, just over 70 broadcasters collectively pay more than \$6 million a year to be on the package.

However, before the launch of Ethiosat in 2019, Ethiopian channels paid up to \$10 million per year to foreign satellite operators to transport them...

Emtel to join Stock Exchange of Mauritius

Emtel plans to list 25% of its capital on the Stock Exchange of Mauritius (SEM).

The company has submitted an offering document to this effect both to the Financial Services Commission of Mauritius (FSC) for registration and to the Stock Exchange of Mauritius

(SEM) for approval. "The objective of the selling shareholders is to bring the company closer to the lives of

Mauritians through a listing on the SEM, to further integrate the company into the economy of Mauritius and the surrounding islands and to provide the opportunity Mauritians to participate in the success of Emtel," said Bashirali Currimjee, president of Emtel.

As part of the transaction, Emtel will put up for sale 113,850,000 common shares. These shares come from Currimjee Jeewanjee and Company Limited (CJ) and Indian Continent Investment Limited (ICIL) who own 75% and 25% of the company respectively. The price and period of the offer, as well as other important information relating thereto, will be included in the prospectus which is expected to be published by Emtel in the coming weeks.

The money raised from this operation could contribute to Emtel's investments.

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industry. Our express route also marks a significant milestone on iournev transform to Africa's digital landscape and to support the growth of the financial services sector?

As financial

institutions increasingly rely on high-speed, lowlatency connectivity to gain a competitive edge, the Paratus Express Route, with BSO as its first customer, is revolutionising trading operations between Africa and Europe. The enhanced connectivity will empower financial firms in London and Johannesburg to trade faster and capitalize on market opportunities.

The Paratus Express Route not only offers unmatched speed and performance but also provides a crucial alternative path for network operators, mitigating the impact of potential fibre outages between Johannesburg and Cape Town.

Burundi's mobile money subscriptions up 140% since 2019

The Telecommunications Regulation and Control Agency (ARCT) has identified 2.3 million active subscriptions to mobile money services in Burundi in 2023; 140% growth from 2019.

During the period, the total number of subscriptions to mobile money services increased from 4.1 million to 6.9 million.

"The capacity of mobile technologies has improved people's lives and exponentially increased, thanks to the development of digital

connectivity, the number of users of mobile financial services. Currently, people without bank accounts have monetary transaction facilities thanks to their mobile phones," said the ARCT.

As of 31 December 2023, Burundi had 8.6 million mobile phone subscriptions for a penetration rate of 66%. Although the adoption of mobile money services in Burundi shows an increasing trend, the penetration rate remains low

Safaricom reports reaching 4.5 million M-Pesa subscribers for Q1

Safaricom's results for the 2023/2024 financial year, which ended on 31 March 31, revealed that M-Pesa now has 4.5 million subscribers.

The trading volume on the platform rose to 31.5 million with a total value of 24.5 billion Kenyan shillings. These transactions were facilitated by a network of 25,800 agents and 62,700 active merchants. Mobile money revenue was about Sh92 million.

"We are proud of the success that Safaricom Telecommunications Ethiopia PLC has achieved in one and a half years of operation. Our focus on adapting our business to Ethiopia's digital future has been instrumental in our growth, and we remain committed to leveraging our

expertise and resources to continue to lead. a key player as the Ethiopian in telecommunications landscape." said Peter Ndegwa director managing of Safaricom PLC.

Gabon considers renationalising Moov Africa

> Gabon is considering renationalisation of Moov Africa Gabon Telecom so that the state owns the network as one of the conclusions. of the Economic and Financial Commission of the Inclusive National Dialogue held in April. It was in 2001 that Gabon Telecom SA was created following the split of the Post and Telecommunications Office as part of the reorganisation of the sector. The operator was privatised in 2007 with the sale of 51% of its capital to Maroc Telecom which won the international call for tenders launched for this purpose. The Gabonese state still owns 49% of the company.

Egypt's telcos face

EGP33 million fine

the first quarter of 2024.

and 3 areas of poor quality.

Egypt's National Telecommunications Regulatory

Authority (NTRA) has imposed fines totalling 33

million Egyptian pounds on mobile operators during

Vodafone, Orange, Etisalat, and Telecom Egypt

(WE) were fined for violating mobile service quality

parameters during the first three months of the year.

Etisalat, and Telecom Egypt presented 23, 27, 17

and 35 poor quality areas respectively out of a total of 114 for voice services. For data services, Vodafone, Orange, Etisalat respectively showed 2, 2

The pressure that the NTRA puts on operators

is part of its mission to guarantee the provision of telecommunications services to all regions of the country, including economic and development

regions as well as urban areas, rural and isolated.

Since the 2nd half of 2021, the regulator has

doubled the amount of fines for poor telecom quality.

In the first quarter of 2024, Vodafone, Orange,

The renationalisation should make it possible to strengthen the capacities of Gabon Telecom so that it is more competitive with Airtel Gabon.

AMRTP to assess access to ICT in Mali households

for The Malian Regulatory Authority Telecommunications, ICT and Posts (AMRTP) wants to assess the access of households and individuals to ICT, as well as postal services.

The regulator launched a call for expressions of interest from consulting firms wishing to support it in implementing the initiative - applications closed on 29 May.

study is to collect reliable statistical data to measure progress made in the adoption and use of ICT and postal services by households and individuals in Mali. It will also make it possible to assess the obstacles that hinder the adoption of these services.

The initiative is part of the AMRTP's mission to regulate the electronic communications and postal sectors. The regulator intends to use the results of According to AMRTP, the main objective of the the study to guide its policies and strategies for the

development of ICT and postal services to reduce the digital divide in Mali.

The project fits with the government's digital transformation ambition, which aims to create an ecosystem conducive to the emergence of start-ups, the modernisation of administration and sustainable economic prosperity. The country is working on the development of a national policy for the development of the digital economy for the period 2024-2028

Moov Africa Burkina Faso moving on up

Moov Africa Burkina Faso reported a net profit of 5.2 billion CFA francs in the first quarter of 2024, up 10.7% compared to 4.7 billion FCFA in the first three months of 2023.

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The performance is attributed to its investment strategy aimed at improving the quality of service, the experience of its customers and popularizing access to fibre throughout the country. Over first quarter, turnover increased from 34.6 billion FCFA to 35.1 billion FCFA. "The improvement in turnover compared to 2023 is essentially linked to the good performance of revenues generated by mobile Internet thanks to the very high speeds offered to customers and a very good quality of connectivity supported mainly by FTTH fibre," said Moov Africa Burkina Faso.

As of 31 March 2024, Moov Africa had 11.8 telephone subscribers (fixed and mobile) and 7.2 million internet service subscribers.

MTN Ghana reports 32.5% revenue increase

Scancom PLC (MTN Ghana) reported revenue of 3.8 billion cedis in the first quarter of 2024, an increase of 32.5% year-on-year (yoy).

This performance can be attributed to the growth in revenues from data which represented 47.4% of the telecoms operator's service revenues during the first three months of the year.

During the quarter, data revenue increased by 60% yoy to GHS1.8 billion. This growth was supported by the implementation of favourable pricing initiatives and increased customer consumption. In addition to data, mobile money represented 22.7% of MTN Ghana's service revenues, compared to 1.3% for digital services. However, voice's contribution fell from 30.7% to 23.4% yoy.

According to statistics from the National Communications Authority (NCA), mobile data traffic increased from 76.1 billion megabytes in the first quarter of 2019 to 438.5 billion megabytes in the first quarter of 2023. For the rest of 2024, MTN Ghana will implement

Mozambique cuts telco tariffs to 5 meticals per minute

The

reduction in

the services in Mozambique.

carried out by the regulator to determine the

dominant operators in the different market

segments as well as the existence of anti-

competitive prices or acts of unfair competition.

Tuaha Mote, chairman of the INCM board of

directors, said that this initiative is part of the

regulator's mission "to guarantee the availability

of infrastructure, quality services in a competitive

environment and affordable prices for consumers

and SMS services should help boost the use of

The reduction in average rates for voice, data

to ensure market stability and sustainability."

prices follows a study

The Communications Regulatory Authority of Mozambique (INCM) has reduced tariffs for services provided by TMCEL, Vodacom and Movitel.

Now, the average price of voice service is reduced from 6 to 5 meticals per minute, while that of data service increases from 2.3 to 1.08 meticals per megabyte. In addition, operators charge on average 1.1 meticals per SMS, compared to 1.7 meticals previously.

In addition to reducing telecoms rates, INCM has also removed fees for access to educational platforms at the national level. Access to local content hosted in Mozambique also now benefits from a 90% discount.

initiatives to capitalise on the high demand for data, particularly in rural areas, and promote the use of smartphones among the general public.

Admaius Capital Partners takes majority stake in Tres Infrastructure

Admaius Capital Partners has acquired a majority stake in the capital of Tres Infrastructure, an operator and developer of telecommunications infrastructure in Rwanda.

The investment will enable Tres Infrastructure to expand its tower portfolio as well as its network coverage in rural areas of Rwanda. Tres, which deploys its infrastructure to mobile network operators and local network service providers, will help improve network connectivity in the country.

"Admaius Capital Partners, with its fund management expertise, not only provides the financial support we need but also its organizational capabilities that will transform Tres into a real business," said Venuste Twagiramungu, managing director of Tres Infrastructure.

Djezzy invests 8.3 billion Algerian dinars in Q1

Télécom Algérie (Djezzy) invested 8.3 billion Algerian dinars to strengthen the technological infrastructure of its network during the first quarter of the 2024 financial year.

The company's capital expenditures (CAPEX) focused on increasing network capacity and

extending 4G and has now achieved 91.5% coverage. The amount invested by Djezzy in telecoms infrastructure in the first quarter of 2024 represents an increase of 11.8% compared to the first quarter of 2023. It is also higher than the CAPEX of each of the other quarters of the year 2023. This complies with the commitment made by the Algerian State in August 2022, after the nationalization of Djezzy, to maintain the course of growth and guarantee its sustainability and profitability.

During the first quarter of 2024, Djezzy generated a turnover of 26.5 billion dinars, an increase of 10.7% compared to the first quarter of 2023. The company also added more than 800,000 new subscribers to reach a total of 16 million.

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TNM to acquire additional fibre routes

TNM has reported an investment of 4 billion kwachas to acquire additional new fibre optic routes from partners including MTN Zambia, MCel Mozambique and Telecom Namibia.

The objective is to strengthen the resilience of its internet network infrastructure and guarantee quality services to consumers.

This investment is a response to internet network disruptions in several East African countries from 12 May due to cable cuts. In southern Africa, Mozambique, Malawi and Madagascar were also affected by these disruptions.

"These outages are extremely rare, but when they do occur, it takes weeks to repair them. Like most mobile network service providers, TNM PIc has been affected by these outages as we rely on upstream maritime cable carriers to connect and host Internet subscribers on our network platform," said Michel A Hebert, general director of the telecoms company.

The investment allowed TNM to quickly restore its internet services and prevent possible outages or outages on submarine cables in the future. This should enable it to retain its current customers and attract new ones to strengthen its position in the Malawian telecoms market.



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 communication between 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 hinder agricultural productivity. Growth demands mean that they must consider improved energy and resource efficiency, dealing with changing weather conditions, and staying on top of soil, 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.



Thousands of towers connecting millions of users across Africa are enabled by Intelsat services and solutions.

Even when delivering service to the most hard-to-reach places, MNOs count on Intelsat to provide the quality solutions needed to meet customer expectations and the support to ensure services are brought up and stay up.

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Anticipating backhaul network needs for 5G/FWA carriers



George Athanasoulias, principal product manager, wireless networks systems, Intracom Telecom

s we move further into the 5G era, mobile network rollout is progressing at full speed.

In parallel, novel 5G FWA technologies are being employed by competitive wireless providers build superfast broadband to networks in underserved and regions and offer unserved hundreds of Mbps to residential customers. Noticeably, various government authorities in many countries provide considerable funding for such rural networks in their effort to close the digital divide nationwide.

A critical factor for cost-effective acceleration of 5G mobile and FWA networks rollout is the availability of economical 5G capable transport systems and especially of wireless backhaul networks.

Microwave (MW) Point to Point (PtP) transmission in licensed frequency bands 6-42GHz remains MW solutions must address all essential requirements of wireless carriers. Therefore, it is of paramount importance for MW system makers to collect feedback from their customers - the wireless ISPs - to reflect it on the design of products and then follow-up closely to optimize and evolve the offered solutions.

7 key attributes for advanced MW PtP backhaul solutions

Collaboration between MW vendors and wireless ISPs is vital for designing effective MW PtP backhaul solutions. Based on their feedback, key attributes of modern MW PtP systems for 5G/FWA last mile backhaul include:

1. Facilitate fast and easy mass-deployment with zerofootprint units: New MW

"A critical factor for cost-effective acceleration of 5G mobile and FWA networks rollout is the availability of economical 5G capable transport systems and especially of wireless backhaul networks."

the preferred solution for reliable backhaul networks at longer ranges and in areas that have a challenging landscape, where fiber cannot be optimally deployed.

Specifically, for 5G FWA network expansions in rural areas, MW technology is perfectly suited to provide the last mile backhaul connecting the remote base stations to central sites, from both technical and economical point of view.

For a successful launch, new

link deployments would be greatly simplified when using all-outdoor radios.

2. Maximize backhaul capacity in a cost-effective manner: The MW system must provide Gigabit capacity, easily scalable to multi-Gigabit. MW all-outdoor radios featuring a cutting-edge dual-core broadband architecture and supporting simultaneously 2 TX / RX RF signals of wide channels 112MHz each would optimize CAPEX and OPEX because one unit, instead of two, need be purchased, installed, and maintained. Furthermore, the MW radio should be seamlessly combined with E-band radios to support dual-band links that can extend capacity and availability at longer ranges.

- 3. Exploit flexibly the MW spectrum with adaptable link configurations: Efficient utilization of scattered bunches of spectra, in different or the same polarization, would help enable optimal use of the available spectrum and increase capacity.
- 4. Enhance radio performance to maintain capacity: To maximize the RF performance and enable long-standing and high throughputs, MW systems need to employ advanced radio techniques to boost the radio performance and increase link availability at higher modulations.
- 5. Improve energy efficiency: Reducing power consumption of new MW radios is a key requirement of operators in

their effort to lower operational costs and reach carbon footprint reduction goals.

- 6. Be managed by smart OSS (AI/ML-enabled) systems: New MW links would ideally be managed by an advanced OSS system that provides service automations and prompt corrective and optimization actions, therefore reducing the operator OPEX.
- **7. Minimize CAPEX/OPEX:** All the essential characteristics described above ultimately contribute to reducing the total costs for wireless operators, which is crucial for a successful long-term business operation.

Today, innovative dual-core MW radios meet wireless ISPs' kev requirements for fast backhaul rollout. exceptional capacity. CAPEX/OPEX optimization. and This fosters a vital relationship MW between manufacturers 5G providers, benefiting and stakeholders and all ensuring timely MW backhaul deployment for high-quality broadband residential services, enhancing customer engagement.



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Meaningful connectivity for every African

The African continent continues to advance along the path towards offering truly meaningful connectivity for every inhabitant...

What is meaningful connectivity?

For a long time, we've been talking about connecting continents, bridging the digital divide, and so on. However, truly meaningful connectivity encompasses so much more than just the physical or digital connection between individuals or entities; it implies a deeper, purposeful interaction that adds value, fosters understanding, and cultivates relationships.

"Connectivity is a fundamental characteristic of what it means to be human," explains Andrew Schafer, CEO, PowerX Technology Ltd. "We are a social species - and the connections we have to our loved ones, our peers and the world beyond our immediate circle defines the nature of our existence. Technology has long played a key role in enriching and extending this connectivity - from cuneiforms on clay tablets, to letters, telephone calls, emails, and now mobile devices. Today, a smartphone can connect you to the vast bulk of accessible knowledge of the human race, and to most humans on the planet.

Having truly meaningful connectivity provides entertainment.

individuals, businesses, and governments with currently vary, depending on household and access to reliable, affordable, high-quality internet and telecoms services that enable them to effectively participate in the global digital economy and society.

"For individual consumers, this is access to opportunities, knowledge and services on demand," explains WIOCC Group head of brand and communications, Greg Sellars. "For businesses, meaningful connectivity is a catalyst and is fundamental to success and competitiveness. For governments, meaningful connectivity plays a pivotal role in driving economic growth, fostering social inclusion and enhancing governance."

According to Dobek Pater, director: business development, Africa Analysis, meaningful connectivity needs to fulfil three parameters:

Connectivity - This needs to be sufficient (in terms of throughput, download/upload speed) to allow unhindered use of the connection for range of tasks - work, education, health, other e-government services, leisure, and The minimum parameters

individual use, and range from 10-50Mbps download speed. This requirement will be higher in the future.

Data quantity availability - The quantity of data which a person or a household can afford over a period (e.g., a month) must be sufficient to enable the connection for the use in various use cases - work, education, health, e-government services and some leisure use. Currently, the minimum is probably 5-10GB per month and it will increase significantly.

Connection technology - A connection technology offering true broadband-quality services is required. Currently, this is offered by 4G and 5G (mobile or fixed wireless), several other fixed wireless access (FWA)/radio technologies, fibre, DSL, and some of the satellite technologies.

Meaningful internet connectivity provides access to a wealth of information and opens opportunities for education, healthcare, and jobs.

"Take cocoa farmers for example, who before mobile connectivity had to sell their produce to intermediaries and wholesalers without any

FEATURE: CONNECTIVITY

knowledge of what the cocoa was fetching on the open market (and what margins the go-betweens were carving out for themselves). Now they can do business connected to the cocoa spot price on global commodities exchanges and protect their margins from avaricious middlemen," explains Schafer. "Another example is the ubiquitous adoption of mobile money, an unintended consequence of being able to transfer talktime from user to user but which has rapidly grown into the de facto method for Africans to transfer funds amongst themselves or pay for goods and services."

But the promise of connectivity is not enough. For these benefits to be truly realised, access to the digital ecosystem requires affordability, reliability, and speed.

"In Africa, this means creating, extending, and in-filling networks to be resilient and costeffective. Without an infrastructure that delivers appropriate bandwidth, reliable uptime and within manageable OpEx and CapEx cost constraints, tower operators and mobile network operators (MNOs) will be unable to make connectivity practical, meaningful, affordable, or reliable in this vibrant and developing region," asserts Schafer.

Connecting the masses

Achieving meaningful connectivity across a continent as diverse as Africa is no simple task.

"There is no technological magic bullet that will immediately deliver meaningful connectivity to every African," opines Schafer. "Instead, the expansion of digital services into new regions will come from efficient enterprises delivering a mixture of technologies dependant on geography, population density, infrastructure availability, and cost-effectiveness."

There is a range of access technologies which can fulfil the requirements, which coexist and compete with each other, depending on the localisation.

"The different technologies are also suitable for different types of user behaviour. In areas where they compete, they provide a choice of connectivity with competing price and other



Andrew Schafer

characteristics, allowing users to buy services delivered by technologies that best suit their particular needs," says Pater. "For example, fibre offers the best quality of connectivity for a person or a household that uses it for work, education and entertainment from a single location, while 5G would be more suitable for someone who needs connectivity in more than one location or on the go."

Africa is a mobile-first continent, and even with expansion of fixed connectivity, large segments of society will continue to use mobile. Just 36% of Africans are connected today, implying lack of mobile connectivity access, awareness of its benefits, and affordability of handsets and mobile contracts.

"For most users in Africa, cellular networks are the go-to gateway for access to each other and the wider world, delivering high-speed internet, voice, data, and multimedia," shares Schafer. "With an estimated 208,000 cell towers across the continent, expected to rise to 261,000 by 2029, cellular networks are continuously growing and evolving to meet increasing demand for data, coverage, and capacity."

Today, "satellite is important for the provision of meaningful connectivity in very remote locations," adds Pater. "However, with the expansion of LEO services, the importance and prevalence of satellite for broadband connectivity will likely grow in Africa. From a monthly premium perspective, Starlink, for instance, is pricecompetitive with many fibre or FWA services in Africa, while the upfront cost is also decreasing. From a performance perspective, LEO is also very competitive with a number of terrestrial broadband technologies."

Schafer reports that, for those in urban areas, fibre promises the fastest and most reliable internet connection available - with high-speed. low latency broadband capable of delivering gigabit-speed internet. However, despite being the gold-standard in speed and bandwidth, fibre infrastructure is expensive to roll-out, requires substantial time and labour to deploy, and is vulnerable to breakages and theft, making it unsuitable for the expansive terrain, challenging transport and utility infrastructure, and dispersed populations of the African continent outside of urban centres.

If it's rapid deployment that's needed, meanwhile, "FWA has gained popularity in recent years, using a network of antennas and radio signals to deliver high-speed connectivity at a lower cost," says Schafer. "FWA has some technical constraints however including line-ofsight limitations due to obstructions, frequency overlap with other networks, and impacts from harsh weather."

Cooperation is key

As beautifully exampled following the March 2024 cable cuts and subsequent rapid reconnection of the populace, when it comes to effectively connecting an entire continent, cooperation is key.

"Operators should cooperate where necessary, e.g., limit overbuild in the case of terrestrial infrastructure which can be shared (such as fibre)," says Pater. "This would allow them to use the CapEx not wasted on network duplication to expand into areas of lower profitability. To this extent, the government can also play a role by forcing operators to build in certain areas of the country only and then share infrastructure to provide services nationally. This can be done as a spectrum assignment condition, for instance."

Schafer agrees that "the most significant delivering contributions to meaningful connectivity come from investment in infrastructure, improving quality of service and making digital connectivity affordable. Investment is essential for expanding coverage and improving the quality and reliability of connectivity across the continent, and this is one area where Africa is uniquely positioned to raise the bar. As mature markets struggle to retrofit existing towers with recent technology, often on sites constrained by physical limitations, African TowerCos and MNOS have an opportunity to leapfrog with investment in new towers that employ the very latest passive and active equipment. This will deliver innovative mobile services with resilient, cost-effective power solutions designed and optimised to meet the challenges of Africa's diverse terrain, climate, and grid issues."

Fully planning out new sites is crucial to deploy networks that really work for every African. Further, the expansion of footprints with new towers can also have an additional impact on remote communities with no grid access, says Schafer: power systems installed for a cell tower can be provisioned to support a level of local community power access, having an even greater impact on the communities they serve through the creation of mini grids

They say that 'it takes a village' to raise a child; but it also takes a village to connect Africa's unconnected: "operators and service providers can seek out suppliers of lower-priced enduser devices, such as mobile handsets, routers, other customer premises equipment. This would lower the barrier to entry for a segment of the consumer and business markets, ensuring higher adoption rates and greater revenues for the operators and service providers," says Pater.

Operators and service providers can also innovate their business models to reduce operating costs to make meaningful connectivity more affordable through lower total cost of ownership; and structure the products to be more in line with economic characteristics of the users, such as selling connectivity in bitesize chunks in a cash-based, informal segment of the market, where income is irregular. This is particularly important in lower income regions of Africa, reports Pater.

Moreover, "operators and service providers who are able to afford it financially can provide free connectivity services to certain institutions, such as schools, particularly those that may struggle to pay for such services," adds Pater. "This can

be considered part of the operators' corporate social responsibility and would contribute to greater use of meaningful connectivity and enable digital education of segments of the society."

Trials and tribulations

In the search for meaningful connectivity, price competition becomes a tricky balancing act. While in and of itself, competition seems positive for consumers by rendering premium products more affordable – for example, high quality fixed broadband, once a premium product for Africa, is well on its way to becoming a commodity, which benefits operators who gain an expanded customer base and higher revenues – it also causes certain problems.

"This has taken place in South Africa, in the FTTx market," highlights Pater. "Operators and service providers try to gain market share by competing on price. This takes the value out of the market for everyone, including potentially the users of services, if an operator or a service provider goes bankrupt due to unsustainable price competition."

Service providers must therefore become technology service providers, not only connectivity providers, to generate higher revenues and profit margins, asserts Pater. This would alleviate the need to maximise revenue from connectivity only; and diversify the revenue stream to make operations more sustainable.

Schafer, meanwhile, warns that where wellintentioned network expansion and related investments do not fully deliver on their potential, this results in higher energy and maintenance costs than expected, as well as under-utilised assets and sub-optimal renewable yields.

"Often this is a product of the, 'if it isn't broken, why fix it?' mindset, where TowerCos and MNOs don't have a view of inefficiencies or optimisation potential, letting CapEx, OpEx and revenue opportunities go unnoticed and unrealised," explains Schafer. "The inadvertent consequences are increased operating and maintenance costs that subsequently end up being passed down to consumers, pricing services out of reach for low-income populations and exacerbating the digital divide."

Connecting Africa (meaningfully) – when, not if

The future of connectivity hangs in the balance. Ensuring that every single African has access to truly meaningful connectivity, and the ability to participate in the global economy (if they so wish), is the very definition of an ambitious target.

"This is a goal that should be actively pursued given the tremendous benefits it unlocks. Some estimates suggest that significant improvements could be achieved within the next decade, but full coverage may take longer, possibly several decades," shares Schafer. "It will require a concerted effort from governments, the private sector, and the international community to overcome the existing challenges and bridge the digital divide across the continent. Considering this, I think it's a question of when, not if, every African is truly, meaningfully connected."

"It may take another 15-20 years, and this could be an optimistic scenario when we consider the entire continent. The ability to connect all Africans meaningfully is a function of a number of factors which will determine how quickly or slowly we achieve meaningful connectivity," warns Pater.

Such factors include affordability, which is dictated by the price of service vs. disposable income; as well as the upfront price of connectivity, as high costs may create a barrier to entry. Meanwhile, useful services and use cases will help drive adoption and must comprise local content; here, the government can play a key role by pushing e-government services.

To really bring meaningful connectivity to the African populace, enabling infrastructure must be available in all inhabited areas. However, operators are unlikely to deploy such infrastructure if it won't generate an expected return on investment (Rol), explains Pater. This may be problematic in low-income areas, which is where government assistance and public-private partnerships become important. The government can also set certain obligations on the operators to enable meaningful connectivity in under-served areas.

"Whilst factors such as policy and regulatory frameworks, international cooperation, digital inclusion initiatives and public-private partnerships all play their part in improving connectivity in Africa, the heart of the issue is the rollout and subsequent management of infrastructure," agrees Schafer. "The speed with which MNOs and TowerCos can extend the reach of their networks depends on the delicate balance between their revenues from new and existing customers and the cost of running and maintaining their networks. Building new towers and in-filling for 5G requires considerable CapEx, and so the more efficiently and cost-effectively they can operate their networks, the more they can direct financial resources into the expansion of their infrastructure."

"Digitalisation and the application of advanced data science (including ML/AI) to achieve networks optimised for power and maintenance is part of Africa's future telecom growth strategy," adds Schafer. "This minimises energy and maintenance OpEx, improves asset performance and drives up employee productivity in managing expanding networks. By achieving these efficiencies, the objectives of reliable, cost-effective tower operations can be realised, and data science becomes a key enabler in delivering the vision of widely accessible, meaningful connectivity across the African continent."

"Government intervention/assistance is required to ensure that unprofitable areas of a country also have high-quality digital infrastructure available and those least able to afford meaningful connectivity are able to do so," asserts Pater. "This can be in the form of subsidies for infrastructure deployment and/ or for services provision. However, an important role that the government can play is to enable and support (through policy, legislation, and regulation) a competitive environment for the provision of connectivity and related infrastructure and services "

The key, according to Pater, is to ensure that various state and private institutions have highquality broadband connectivity as soon as possible. Schools are one example, allowing individuals access to connectivity meaningfully even if it is not yet available in the household or individually.

Will Africa ever be meaningfully connected? It seems so, but there's a long road ahead... ■



FEATURE: UTILITIES



Advancing critical national services

Africa's utilities providers are going smart with wireless technologies, enhancing reliability and cutting costs with a combination of terrestrial and satellite connectivity...

hen we talk about connecting Africa, we're usually focusing on consumers – enhancing internet adoption, enabling new services like OTT, mobile money, telemedicine, mobile retail, and so on. However, enterprises, too, stand to gain hugely through the provision of wireless connectivity, from e-governance projects through to one of Africa's most challenging critical services – utilities.

In support of utilities

Wireless communications have proven instrumental in supporting the provision of utilities across Africa, and, of course, the world at large.

"On average, electricity utilities in the continent lose 23% of all energy consumed due to operational inefficiencies, at a cost of almost US\$3.3 billion per year, compared to a 10% global average," reports Nabil Ben Soussia, group CCO, IEC Telecom. "Africa is struggling with huge operational inefficiencies estimated to be costing more than US\$3 billion annually. This contributes to the region suffering the world's highest energy prices, with most of its electricity providers barely breaking even, which limits their scope for reinvestment." "Over the past few years, African utilities – especially of the electric variety – are making impressive strides to both modernise their grids and expand services to more underserved areas than ever before," adds Dori Erann, VP, private networks marketing, Ceragon Networks.

Indeed, smart grid systems are becoming huge on the continent, helping enhance the reliability and efficiency of electricity distribution. These smart grids utilise sensors, meters, and communication networks to gather data on energy consumption patterns, identify areas of high demand, and manage power distribution more effectively, enabling reduced energy losses, lower operational costs, and improved service quality – particularly important goals for a region blighted by significant power outages.

"Receiving real-time data on the grid's status and operations can help drive further provisioning of services," outlines Erann. "With the right data at their fingertips, utilities can go beyond day-to-day monitoring and management, and use data and artificial intelligence (AI) for predictive analytics as well as preventive and corrective maintenance."

Remote monitoring and control of essential utilities infrastructure – power grids, water

systems, oil pipelines, etc. – makes a significant positive contribution to optimising scant resources. Moreover, with this remote monitoring, utilities operators can properly monitor their operations no matter how remote or rural the site, without having to send a human engineer for monitoring and maintenance – a task which may take days, lack accuracy, and be price-prohibitive.

"With this fast-paced growth and modernisation, planning, deploying, and running a resilient, reliable, and high-speed communications network backbone is vital. The right network enables key applications that can significantly advance and improve a utility's business operations and overall efficiencies," says Erann. "Whether it is connecting remote field personnel, adding video surveillance to secure people and assets, or incorporating nextgeneration technology such as smart sensors, IoT devices, distribution automation, or AI, having sufficient and ubiquitous connectivity is the key to a utility's growth in the modern world."

Modernising the network

There is no one magical technology for utilities when it comes to an expansive continent like

Africa - the best communications solutions usually include a combination of many.

Microwave backhaul, for instance, can bridge long distance gaps, while WiFi offers hotspots for IoT, field personnel, and fleet vehicles. Wireless smart utility network (WI-SUN) and RF-mesh can connect smart meters, while LoRaWAN and Zigbee can connect IoT sensors and devices. Private LTE/5G has an increasingly important (and increasingly profitable for providers) role to play in connecting multiple locations with highspeed, secure connectivity.

"The ideal utility network is quite complex and varies from one geography to another. Much of utilities' existing infrastructure is becoming obsolete, and they need to begin considering upgrading, introducing a larger challenge to develop a modernisation plan as early as possible," says Erann. "This digital transformation journey should consider all technologies, trends, applications, and future needs to ensure that the investments made today are being applied in the most practical and effective manner."

For remote and rural regions, home to many utility services, terrestrial infrastructure is limited at best, thus satellite is a necessary enabling technology, providing access to critical data, communication, and remote monitoring capabilities, supporting operations in challenging environments.

"Connectivity enables the utility sector to easily shift from reactive response to preventive management," says Soussia. "Satcom data inputs feed into the comprehensive web platform, which is equipped with a pre-set alert mechanism to identify potential threats. As a result, a serious breakdown can be avoided with timely maintenance."

Meanwhile, with 90% of fresh water in Africa found within 63 international river basin catchments crossing multiple borders, water resource management on the continent must be an inherently international and cooperative endeavour. This is a challenging task considering the technological gaps between African countries, as well as geopolitical tensions within the continent.

"Projects such as Cooperation in International Waters in Africa (CIWA) aim to resolve this utility challenge by harnessing the power of remotely sensed (RS) satellite data," reveals Soussia. "RS data is used as input for a range of analytical tools, such as flood forecasting, monitoring of surface water quality, tracking water diversion and allocation, and quantifying water storage in reservoirs. Satellite-derived data offers undeniable technical advantages by standardising instrumentation requirements, effectively bridging the technological disparities across Africa. Moreover, its politically neutral nature fosters transparency in data sharing across borders."

Satcoms are also proving invaluable in supporting a remote workforce since, "while RS data offers the visibility necessary to run industry assessments and raise the red flags to be addressed, we still require humans to manage, maintain and expand utility networks. Satcom is vital for remote workers to keep in touch and call for help if needed," explains Soussia. "By empowering remote workers with reliable connectivity, utility organisations can improve the coordination of maintenance operations in faraway areas. Using tools like smart goggles and real-time communication, remote workers can leverage the expertise of technical staff based in HQ, which can enable them to resolve problems and accomplish more tasks over one visit."

Soussia highlights an interesting story wherein a team of researchers from the International Institute of Applied Systems Analysis (IIASA) and the Future Energy Program at the Fondazione Eni Enrico Mattei (FEEM) in Italy analysed the precision with which satellite images showing nighttime lights could be converted into spatially detailed maps of electricity access in sub-Saharan Africa.

"The research validates a growing recognition of the potential gains of using satellite data to assess the availability of electricity across a large geographical area," asserts Soussia.

Digital twins, too, have a significant role to play when it comes to modernising utility networks globally. A digital replica of the utility's physical assets and systems can be used strategically to monitor, control, and optimise every corner of the utility, in real time.

"From strategic planning, modelling, testing, performance monitoring, to automated equipment upgrade notifications and a single source of truth for employees alike – implementing a network digital twin can pay out enormous dividends in the long run," says Erann.

By combining the right technologies for each specific application, challenges related to critical infrastructure can be overcome to improve the reliability and efficiency of utility services and accelerate progress towards achieving universal access to essential utilities.

Moreover, "with the right equipment, tools, and know-how baked into their plan, utilities can avoid pitfalls such as trying to manage multiple, disparate networks which tend to result in bottlenecks, network vulnerabilities, and typically require additional inhouse personnel and expertise," asserts Erann.

A wireless future

No technology is without its shortcomings, of course; while wireless communications offer numerous benefits to the utilities sector, they also come with challenges compared to their wired counterparts, namely reliability, bandwidth limitations, security concerns, coverage, interference, and congestion.

However, industry marches on, and advances like 5G, IoT and satcoms, and ongoing improvements to all aspects of their application, continue to offer extremely attractive benefits for utility operators. Moreover, while fibre plays an important role in connectivity everywhere, it too has its limitations.

"Many African countries face large geographical expanses and long distances where digging and laying fibre is both time consuming and cost prohibitive. In addition to long distances, obstructions such as waterways, mountains, and other topologies can create serious issues for fibre deployment," says Erann. "By utilising wireless connectivity, utilities can get their entire grid – people, assets, and places – connected in a fraction of the time and costs associated with all-fibre deployments. While wireless has its own challenges - licensed vs unlicensed operations, attaining enough spectrum, regulatory issues, etc. - these problems are often easier and more affordable to solve than those posed by deploying ubiquitous connectivity with fibre."

Wireless communications, therefore, are likely to continue to play a pivotal role in driving innovation, improving efficiency, and expanding access to essential utility services across Africa. Looking ahead, we can expect to see further investment in smart grids, IoT solutions, and satcoms integration, as well as a heightened focus on cybersecurity, sustainability, collaboration, and public-private partnerships.

Soussia reports that the use of satellite technologies within the utilities sector is also growing and set to bring even greater benefits in terms of operational efficiencies.

"With the introduction of the low Earth orbit (LEO) satellite constellations with their low latency, large bandwidth, and high-speed connectivity the opportunities are expanding. With the development of specialist software and applications it is now possible to conduct activities such as real-time surveillance, video conferencing, and data management in even the most remote areas. And watch this space – the satcom industry is developing at such a rapid pace that within only a few years what is possible will be transformed," announces Soussia.

Wireless communications in Africa's utilities sector are poised to undergo significant transformation, driven by technological advancements, changing consumer expectations, and evolving regulatory frameworks.

"There are billions of dollars to be invested over the next decade in advancing and expanding utility services - especially in the sub-Saharan region," asserts Erann. "By leveraging wireless technologies, utilities can overcome geographical barriers and serve remote or underserved areas with essential services such as electricity, water, and telecommunications. The flexibility and scalability of wireless communications enable utilities to extend their reach to a broader customer base, thereby contributing to an improvement of life and socio-economic development across the continent. An advanced communications network enables utilities to optimize resource management, detect and address issues promptly, and improve overall service quality. This, in turn, fosters sustainable development, ensures equitable access to essential services. and supports the growth of infrastructure in previously underserved regions of Africa."

INTEGRASYS

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

STEGRASIS

INTEGRASYS is proud to announce that the company has received a new recognition during exclusive award ceremonies at the SATELLITE 2024 show in Washington (US). This is the third year in a row the INTEGRASYS has received an award in recognition of its innovative technologies.

The Mobile Satellite Users Association (MSUA), a global not-forprofit organization focused on amplifying the voice of satellite mobile solutions users and innovators, has awarded INTEGRASYS solution FlexCap as best Software Defined Network Innovation of the year.

FlexCap represents a groundbreaking advancement in the realm of satellite technology, specifically designed to cater to

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

Exemplifying resilient communications systems

The March subsea cable outage was huge news across the globe – but how big an impact did it have on consumers, and what lessons were learned by operators?

n 14 March, four subsea cable systems – WACS, MainOne, SAT-3, and ACE suffered significant damage from a major subsea landslide off Abidjan, Côte d'Ivoire, significantly impacting upon communications across the African continent. Countries including Liberia, Benin, Ghana, Burkina Faso, the Gambia, Guinea, Ivory Coast, Niger, Namibia, South Africa, and Lesotho, were all affected.

The March incident shortly followed another in the Red Sea in February, wherein three cables were damaged by an anchor drag, highlighting the vulnerabilities inherent in the subsea cable sector.

"This is, unfortunately, not the first time that damages to undersea cables have caused internet disruptions. In 2020, damages caused internet disruptions in West Africa, while in 2018, 10 West African countries were completely offline for 48 hours, due to damages to the ACE submarine cable," explains Rhys Morgan, general manager – vice president, media & networks, EMEA, Intelsat.

Subsea cables are indeed vulnerable to accidental damage from fishing trawlers and ship anchors; natural disasters like earthquakes and underwater landslides; and deliberate sabotage or vandalism.

"The recent incident off the coast of Côte d'Ivoire highlights the vulnerability of multiple cables to a single geological event, underscoring the importance of cable route diversity and redundancy in mitigating the impact of such occurrences. Having redundancy through multiple cable systems is important for network resilience," says Rolf Mendelsohn, Paratus Group CTO. "In addition to the most recent incident off Côte d'Ivoire, there have been two recent incidents off Muanda, DRC which were the result of undersea landslides, with both landslides having been presumably precipitated by seismic activity in the Mid Atlantic Ocean."

Feeling the impact

The impact of the cable outage was significant enough to make headlines in major national newspapers across the globe – perhaps a telling indication of our reliance on connectivity.

"The damage to these critical undersea cables has led to widespread internet and online service disruptions, affecting millions of people across Africa over the past month," says Mendelsohn. "This has far-reaching consequences for commercial operations, personal communications, healthcare, and education sectors that rely on stable internet connectivity."

Morgan agrees that the damage caused immediate widespread connectivity challenges across the African continent and beyond, with banking payments not processed and office workers left without access to emails and cloud services, amongst others.

"Whilst traffic was rerouted, the reliance on the internet for daily operations across various sectors highlights the devastating impact that a total outage can have on the continent's economy, although some countries are better connected than others," opines Morgan. "For example, South Africa is connected by nine submarine cables, whilst countries such as Sierra Leone and Liberia only have one fibre optic cable actually coming into the country. Any breakage is felt heavily across these countries."

The Nigerian economy reportedly suffered a major setback due to network disruptions experienced by MTN and Airtel from the cable outage, raising concerns about its impact on the country's stability. The economy has been particularly hard hit by the disruption since reliable network services are crucial for online transactions, and the disruption has led to a decline in sales for online retailers, with customers facing difficulties in accessing e-commerce platforms.

"The network disruption has, to a large extent, affected the financial sector, hindering online banking services and mobile payment platforms," reports Temidayo Adefioye, CEO, Switchcon. "Also, access to banking services has been impeded, leading to delayed transactions, limited access to funds, and difficulties in conducting business operations. This has affected individuals as well as corporate entities, including payment processors and financial institutions, with implications for financial inclusion and the efficiency of payment systems."

Accordingly, Nigeria now wants West African countries to join forces to protect shared telecommunications infrastructure and diversify connectivity to ensure uninterruptible connections. Aminu Maida, executive vice chairman of the Nigerian Communications Commission, says that the cable outages have raised the urgent need for the subregion to establish a mechanism to protect itself from damage to submarine infrastructure and its impact.

"Securing telecom infrastructure is paramount for fostering Foreign Direct Investment (FDI) and enhancing investor confidence in the West African subregion. The reliability and resilience of telecommunications networks are crucial factors that investors consider when evaluating regional opportunities," says Maida.

The vice chairman believes that the recent cable cuts have highlighted the need for a coordinated, multilateral approach to protecting shared infrastructure across member nations. As such, he proposes a framework for joint monitoring, risk mitigation, and emergency response procedures for the submarine cables that pass through the subregion. Maida adds that, in addition to strengthening its subregional infrastructure resilience, the region needs to promote the diversification of its connectivity, conduct regular capacity assessments, and facilitate the designation of telecoms infrastructure as critical national infrastructure in member countries.

Crisis response

Following reports of the outage, the response from the cable operators was swift and decisive; however, repairing complex subsea cable infrastructure – hundreds of metres below sea level · is no mean feat.

Nevertheless, according to the National Communications Authority of Ghana and landing service providers for the submarine cables involved, complete repair of the ACE, MainOne, SAT-3 and WACS submarine could take up to five weeks – so any time now.

"The repair process involves specialised cable ships locating the damaged sections, retrieving the cables from the seabed, and splicing in new segments. Each ship needs the exact cable spec to be loaded in port prior to departure so it is a logistically and practically time-consuming exercise," says Mendelsohn. "In addition, the repair vessels have to wait for suitable marine weather (small swells) in order to be able to

FEATURE: CABLES

effect repairs. The costs are typically borne by the consortium of telecom companies that own the affected cable systems."

Following the outage, the cable companies involved scrambled to redirect traffic via alternative routes while the repairs were ongoing, with Liquid Intelligent Technologies, Angola Cables, Seacom, WIOCC and Paratus Group all having redundancies in place prior to the incident.

"Our priority is to ensure minimal disruption and maximum resilience for our clients," reported Ryan Sher, group chief operating officer at WIOCC. "We have invested heavily in deploying diverse, highly-scalable national and international connectivity to support the uptime requirements of our wholesale client base. Investing at scale means that we consistently carry extra capacity, ensuring we are able to rapidly turn up or reroute capacity to address unexpected network disruptions. It also enables us to deploy shortterm restoration solutions for other operators on a case-by-case basis."

Connecting a continent

Swinging into its element, satellite has proven key to reconnecting Africa amid the cable outage disaster. With ubiquitous coverage, satellite is the only way to bring connectivity to countries around the continent, quickly, easily and cost effectively.

"Traffic that would usually be carried on the impacted cables was rerouted, but this highlighted how critical a stable and resilient internet infrastructure is for the economic growth and functioning of modern societies," says Morgan. "A hybrid solution that includes terrestrial/maritime cables, wireless technology and satellites is needed to build that resilience into networks. A multi-layered approach with these highly complementary technologies will deliver the resiliency and security that MNOs expect for their networks."

Indeed, CMC Networks – which utilises a combination of technologies to connect Africa, including the WACS, SAT-3 and ACE subsea cables – reports that it has now added low Earth orbit (LEO), medium Earth orbit (MEO) and geostationary orbit (GEO) satellite connectivity to its portfolio of solutions.

"The recent damage to subsea cables and the subsequent disruption to businesses across South Africa has highlighted the need for a wide variety of connectivity options and digital infrastructure that has the resiliency to ensure business continuity during unforeseen events. Our satellite solutions enable service providers and enterprises to manage risk and maximise uptime," says Marisa Trisolino, CEO at CMC Networks.

Mendelsohn asserts that the emergence of LEO satellite constellations has made satellite connectivity a more viable option for reconnecting a continent during undersea cable outages: "in addition to leveraging redundant undersea cable capacity, CSPs like Paratus Group are also utilising satellite solutions (GEO and LEO) to ensure connectivity during cable outages. Paratus Zambia and Mozambique, for example,



has successfully integrated Starlink into its suite of solutions, providing reliable high-bandwidth connectivity to businesses in remote areas. CSPs have also secured additional capacity on operational undersea cables to restore services. For example, some providers have turned to the recently launched Equiano cable, to mitigate the impact of the outages caused by the damaged cables."

The specific advantages offered by LEO - highspeed, low-latency connectivity comparable to fibre; the ability to reach remote and underserved areas; rapid deployment and setup; and affordable and user-friendly equipment – has made it a valuable tool for cable companies.

"CSPs like Paratus Group are successfully using LEO solutions as a backup solution alongside their direct internet services, improving overall network resilience," shares Mendelsohn. "However, it's important to note that satellite solutions are still best suited as a complementary technology to undersea fibre optic cables rather than a complete replacement. Fibre optics still offer higher data capacities and lower costs per bit for high-traffic routes. An integrated approach combining undersea cables, terrestrial fibre networks, and LEO satellite solutions can provide the most comprehensive and resilient connectivity for the continent."

A resilient Africa

All reports suggest that, at the very least, the continent's subsea cable operators were reasonably well-prepared for March's cable outage, with each having multiple redundancies in place. Questions remain about whether these preparations were adequate, given the responses out of Nigeria.

"In this instance, various operators, whether satellite or terrestrial, came together to help restore connectivity and limit the impact," says Morgan. "However, with governments increasingly requiring a stable and resilient internet infrastructure for the economic growth, as well as ensure access to health and education services, anticipation is critical to help cover all eventualities and avoid any disruptions that could have some long-term impacts. Satellites are a crucial part of a necessary technology mix to ensure a much-needed resilient connectivity."

Mendelsohn, meanwhile, believes that going forward, the integration of satellite solutions can help mitigate the long-term negative impacts of undersea cable outages on various sectors. By providing a reliable backup connectivity option, businesses can maintain operations and minimise lost productivity and revenue; schools and universities can continue online learning programs; healthcare providers can maintain access to telemedicine and digital health platforms; and government services and financial systems remain operational.

Moreover, "the availability of satellite solutions has been particularly beneficial for industries such as logistics, manufacturing, hospitality, mining, and education in remote areas. By ensuring reliable connectivity, satellite solutions can support the digital transformation of these sectors and contribute to overall economic resilience," adds Mendelsohn.

Given the scale of the outage, it's likely that going forwards, we'll see a greater focus around resiliency by design, and increased partnerships with wireless and satellite providers to further bolster the continent's networks.

"As CSPs continue to integrate satellite and terrestrial networks, the long-term impacts of connectivity disruptions on African economies and social sectors can be minimised. The incident underscores the critical importance of investing in diverse and resilient subsea cable infrastructure to minimise the impact of such events on African economies and societies in the long term," concludes Mendelsohn.

Seamless connectivity upgrades for Africa Mercy

ercy Ships is a non-governmental organisation (NGO) that operates the largest non-governmental hospital fleet of vessels in the world. The charity delivers free and life-saving healthcare to people in regions where resources and medical care are scarce.

Each year, Mercy Ships aims to provide more than 5,800 surgical procedures, 18,000 dental procedures and trains 3,400 professionals in their area of expertise on its vessels. Connectivity is critical for these vital medical procedures and training, as it enables Mercy Ships to transfer data to and from the ships, connect with doctors, surgeons, and nurses for consultations, and facilitate their applications.

Connectivity at sea

Reliable satellite connectivity sits at the heart of Mercy Ships' operations through connectivity, remotely located healthcare professionals working at Mercy Ships can treat patients more effectively.

SES has been working with Mercy Ships since 2021, enabling daily medical operations, training, and remote diagnostics for the charity to provide free and essential healthcare to people in need via the Global Mercy and the Africa Mercy vessels. Moreover, the connectivity has provided vastly improved diagnostics and treatment onboard for its patients; specialist pathologists sitting miles away can help diagnose complex, life-threatening, or deadly conditions onboard the vessel through remote viewing for a compact digital scope and with a CT scanner.

Connectivity is also essential to ensure other tasks run smoothly, like operating the vessel, running diagnostics, executing administrative tasks, managing supply and operations, and keeping 900 crew members connected with their families and loved ones to boost team morale and allow them to stay on board for extended periods.

Upgrading operations

Recently, the Africa Mercy docked in Durban to undergo extensive repairs and maintenance to prolong its service life.

"We believe every life deserves access to quality healthcare, regardless of geographical location. The 'Africa Mercy refit project' is a testament to our unwavering commitment to extending the reach of our medical services and positively impacting the lives of thousands. Through this project, we are not only upgrading a ship; we are opening doors to hope, healing, and a brighter future for those in need," said Brenda van Straten, director, Mercy Ships, South Africa. "The upgrade will also allow us to continue our program delivery, improving the working and living conditions of our dedicated volunteers, and optimize the ship's operational efficiency and future maintenance costs. Durban was selected as the location for the ship's infrastructure upgrade due to our



successful collaboration with the DORMAC shipyard in the past. The quality of their work, especially in the ship's interior, a vital aspect of this project, has greatly impressed us. Additionally, Durban's proximity to our next destination, Madagascar, played a pivotal role in our decision-making process."

The project included modernising the galley, upgrading the elevator system, and remodelling several cabin spaces to enhance safety and functionality, creating an environment that fosters community and healing. A key highlight of the refurbishment was the IT upgrade, which will notably enhance the ship's functionality and performance.

To ensure the success of the upgrade, Mercy Ships assembled a team of renowned contractors and vendors from around the world, including South African companies such as DORMAC, Bradgary, MLQ, MAN Energy Solutions, AEGIR-Marine, and Loewe-Marine.

Completed as of the start of 2024, the new platform enables seamless communication and coordination between the Africa Mercy and the Global Mercy, while also supporting the provision of essential training for local doctors, fostering the development of in-country healthcare professionals.

"The Africa Mercy upgrades, resulting from meticulous planning by Mercy Ships' technical teams in collaboration with DORMAC, MLQ, and Bradgary, involved several ship visits to ensure detailed designs were completed. The one-month drydocking, complying with Classification Society rules, saw numerous upgrades," said Chris Sparg, managing director, DORMAC Marine & Engineering. "Working with Mercy Ships' experienced technical professionals was a pleasure as they deeply understand the ship and organizational needs. Our teams are proud to support Mercy Ships, positively affecting lives in Africa."

Waveguide Communications Inc. (WGC) completely overhauled the CAT6 cabling, replacing it with CAT7 cabling throughout vessel for the Africa Mercy's WiFi, CCTV, phones, main data centre, and backup data centre. Meanwhile, South Africa's Brandfin Trade spearheaded the installation of 116 CCTV cameras throughout vessel.

The phone system, however, faced a notably impressive upgrade, effectively resolving the connectivity and communication issues previously endured by the ship's crew. Prior to the project, the Africa Mercy had Toshiba phones, of which only about 24 were VoIP capable (the remainder being digital). Today, the new Cisco Phone system - a total of 404 VoIP phones - will dramatically improve overall communication on the ship, enabling the swift and efficient exchange of important information and messaging. Indeed, the transition to a VoIP capable phone system includes flexibility for futureuse/ integration capability/compatibility, advanced features, improved connectivity, remote management, and environmental sustainability. The AFM phone upgrade solution caters to all departments' communication needs of modern maritime operations, ensuring efficiency and reliability.

The Africa Mercy refit project was part of a broader five-year initiative. Upon completion of the refit, the Africa Mercy and the Global Mercy will significantly expand Mercy Ships' capacity to provide life-changing surgeries. By utilizing these two ships, Mercy Ships aims to more than double its current reach and effectiveness in improving healthcare worldwide.

Interestingly, during the refit, with many core and critical services offline due to upgrades, satellite connectivity from SES enabled the crew to maintain critical communications and prepare for follow-on field service in Madagascar.

"It makes me incredibly proud that this partnership reflects the positive impact SES's services have on the delivery of healthcare in regions of the world where medical services are not easily accessible nor affordable," said Carlos Chang, sales manager, cruise, SES. "I am humbled to have played a role in supporting Mercy Ships over the past three years and in helping save and improve the lives of thousands of people yearly."

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Greenfield wireless networks for Côte d'Ivoire Terminal

ôte d'Ivoire Terminal (CIT), Abidjan's Staying ship shape second container terminal, is a project jointly developed by two leading global terminal operators, Bolloré and APM Terminals.

A recent build, the Euro400 million project in terminal and equipment began in 2020 and was completed in November 2022. Located adjacent to the existing Abidjan Terminal, the new zeroemissions terminal is expected to enhance the competitiveness of the Port Autonome d'Abidjan and add an additional 1.5 million TEU in annual throughput capacity.

With high expectation on the terminal to offer greater capacity to the port of Abidjan and improve the flow of the country's imports and exports, the terminal operators were determined to equip CIT with the best possible infrastructure. access connectivity in both bands, up to 30km,

As for most other busy shipping ports across the globe, the challenges for CIT included an everchanging environment; many mobile devices; and limited sites for installation.

CIT selected Altai's flagship A8n WiFi base station for deployment at the terminal. To enable wireless connectivity and improve operational efficiency, the advanced 802.11 a/b/g/n/ ac WiFi solution with 8×8 MIMO and smart antenna technology is designed for broadest coverage range and best non-line-of-sight (NLOS) performance. Operating concurrently in both 2.4GHz and 5GHz bands, the Super WiFi A8n series base station provides CIT backhauling via the 5GHz band.

The eight antenna ports for four dual-slant sector antennas provide flexible 90-360° coverage and deliver as much as three times the range and ten times the area of coverage as standard access points - a significant benefit for a busy shipping port. With throughput of up to 300Mbps (access) plus 300Mbps (access/ backhaul) capacity per base station, as well as Altai's AirFi technology for higher capacity and efficiency per WiFi channel, CIT has gained a truly efficient wireless communications system, fitting for a modern-day port.

Fast and efficient to install and manage, today, Altai's Super WiFi A8n series base station is supporting CIT's daily terminal operations keeping things ship shape.

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 business data analysis." 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 without manual intervention. 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.

Connecting communities with low-power DRM

CML Micro's new DRM1000 module is a complete Digital Radio Mondiale (DRM) broadcast receiver implementation that will enable consumer radio manufacturers to connect communities with low-cost, low-power DRM radio designs.

Radio manufacturers can add DRM quickly and easily to their current and future analogue AM/ FM/DRM radio receiver designs. By virtue of DRM's ability to deliver high-quality audio and rich digital content at radio frequencies in the Low, Medium, High, and VHF ranges, DRM is uniquely placed to provide those services to dense urbanarea and diffuse rural populations. Listeners can be spread over wide geographical areas yet only require minimal transmitter infrastructure investment Converselv. DRM's leading spectral efficiency can also support a much wider variety of

content and channels than analogue radio broadcasting when spectrum is congested. This makes DRM the optimum digital radio solution for diverse national deployment.

DRM can seamlessly use existing LF/MF/HF and VHF radio frequency spectrum alongside current analogue services. The standard also provides support for a fully integrated, disaster and early warning service called Emergency Warning Functionality (EWF) that can be used in the event of interruption to communications infrastructure in remote areas caused by natural disasters or other reasons.

The module contains all hardware and software (including all IP and patent licenses) required for radio equipment manufacturers to quickly realise a dual mode (digital and analogue) DRM-capable receiver. There is no need to pay additional software licenses or royalty fees.

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 midfrequency 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.



Telstra named Honda's connectivity partner

Telstra has been announced as the connectivity partner for Honda in Australia, powering the next generation of technology in the Accord.

The new car introduces an improved upgrade to the Honda Connect service and the first integration of Google built-in, enabled by Telstra SIM and powered by Telstra's leading mobile network.

"We're entering a new era of technology and innovation in the automotive industry," said Jon Young Flores, Telstra industry executive. "By bringing together our connectivity expertise, including the largest mobile and IoT networks in Australia, our partnership with Honda is really about delivering the best connected car experience for new Honda Accord owners in Australia - one that is more convenient and enjoyable."

Among the enhanced connectivity capabilities made possible by this partnership, Honda is able to securely access the vehicle's telemetry data, which collects, transmits and analyses vehicle data including

and environmental conditions for improved vehicle maintenance and diagnostic monitoring; a new and improved infotainment system with entertainment, navigation, and weather updates. On the future roadmap, Vehicle-to-Everything (V2X) technology connecting smart devices to the car and allows the vehicle to interact with things around it.

This connectivity means seamless integration of navigation and live traffic updates, and hands-free help from Google Assistant for in-vehicle voice control of functions such as the car's temperature, and the ability to download music, podcasts and audiobooks.

"Telstra has been dedicated to working with leading auto brands to enhance the driving experience across safety, convenience and enjoyment," said Flores. "Partnering with Honda for the launch of the new Accord, a benchmark in its category, marks a key step toward that mission."

"At Honda Australia, our core

customer experiences through our innovative products and technology, and this partnership with Telstra helps us achieve that," said Honda Australia vice president & director Carolyn McMahon. "In-

engine performance, fuel efficiency focus is in delivering exceptional car connectivity is more important to our customers today than ever before, and with the launch of the all-new 11th generation Accord we are jointly delivering the joy of connectivity and convenience to our customers."



Sigma Lithium opts for private LTE campus networks

Nokia has been chosen by Sigma Lithium, a leading global lithium producer, to deploy the first private LTE wireless campus network in the Americas that supports the mining of lithium - a metal critical to the production of batteries that power electric vehicles.

"At Sigma, we are dedicated to powering the next generation of EVs in the most sustainable manner. We are very excited to work

with Nokia and Alcon to enhance worker safety and efficiency while continuing to expand our exploration of a metal critical to the world's energy transition," said Marcelo Marinho, chief operating officer at Sigma Lithium.

Nokia will work with Alcon to roll out the private wireless network, which will support 200 Sigma employees and add multiple innovative mining applications that boost productivity and



operational efficiency.

As the world converts to more energy-efficient vehicles to combat climate change, demand for lithium is skyrocketing. Exploration globally is expected to increase more than 10 times by 2035. Sigma produced record amounts of Triple Zero Green Lithium at its Brazil plant in 2023 and its Quintuple Zero Green Lithium was recognised at COP28 as the most sustainable lithium in the world.

With a Nokia private LTE network based on Nokia Digital Automation Cloud (Nokia DAC), the company is ratcheting up its goal to produce next-generation EV batteries in a carbon neutral, socially and environmentally sustainable manner - deploying robust dedicated bandwidth and throughput across its sites. Connecting workers with certified ruggedised devices, industrial edge computing and a catalogue of ecosystem-neutral applications contribute to the creation of а safer working environment and enhance productivity and

operational efficiency with crucial mining apps such as dispatch, push-to-talk and push-to-video, and smart badge systems.

"We are very pleased to partner with Nokia on this exciting project to bring mission-critical networking to Sigma Lithium. Our expertise in deploying these vital solutions in challenging environments will ensure an optimised roll-out for Sigma Lithium," said Victorio Accon, commercial manager at Alcon.

"This exciting collaboration with Alcon will bring robust connectivity to world-class lithium mining leader Sigma Lithium and accelerate digitalisation. Dedicated, mission-critical connectivity connecting industrial devices and applications is at the heart of revolutionising the way the mining sector operates - keeping employees safe and enabling high-performance operations that deliver results," added David de Lancelloti, vice president enterprise campus edge business at Nokia.

Telus to invest CAD33 billion in network infrastructure for Alberta and BC



Telus is investing over CAD fibre networks.

16 billion and CAD 17 billion to significantly expand and improve its network infrastructure and operations across Alberta and British Columbia over the next five years, respectively.

This investment is part of a larger commitment to deploy CAD 73 billion across Canada by 2028 to develop infrastructure, improve sustainability, and advance its network technology.

Since 2000, Telus has invested more than CAD 60 billion in Alberta and over CAD 63 billion in British Columbia to build and develop network infrastructure, operations and spectrum, including 5G and

"These investments will ensure that our customers continue to benefit from the best network experience in the world, which facilitates crucial, generational changes in healthcare, education, teleworking, the environment, and our digital economy and societies," said Telus in a release.

Through 2028 in Alberta and British Columbia, Telus will enhance its networks to make them faster, smarter, and greener, enhancing 5G networks with ORAN technology across Alberta, British Columbia, and Canada, using AI and advanced analytics to plan new infrastructure builds that will optimise coverage

and network performance.

In 2024, Telus reportedly plans to double the number of new cell towers built across Alberta in 2023 expanding coverage in areas _ including Calgary, Edmonton, and Sherwood Park, including a strategic Indigenous partnership with Services Canada to expand coverage to rural areas like Eden Valley.

In 2024. Telus plans to double the number of new cell towers built across British Columbia in 2023 - expanding coverage in areas including Burnaby, Surrey, Kelowna, and Vancouver, including a strategic partnership with the CRTC to expand coverage to rural areas along Highway 20.

Everest Infrastructure completes tower buy from Vertel

🗧 🕂 Everest Infrastructure ANZ has completed the acquisition of a nationwide portfolio of tower assets from Vertel expanding its tower portfolio in Australia.

Financial terms, along with the specific number of tower assets acquired, were not disclosed, although Everest noted that the tower assets included are located throughout New South Wales. Western Australia, and Victoria, complement its portfolio of strategically located assets.

"Everest is pleased to have been selected by Vertel for this transaction," said Everest Infrastructure Partners ANZ. "This expands Everest's regional footprint to over 100 locations across Australia. With several thousand communications sites in the pipeline, Everest has established itself as a leading independent tower company serving the infrastructure needs of wireless carriers across Australia "

"From the outset. Everest offered the most compelling proposition by identifying sites which maximized portfolio valuation," said Vertel. "We look forward to Everest owning and operating these communications sites going forward, with Vertel continuing to run its own network through these sites."



INRED connects the Amazonas with MEO satellite connectivity

INRED is using SES' medium Earth orbit (MEO) satellites to provide internet connectivity in

the department (administrative division) of Amazonas. The project aims to connect

more than 500 homes, schools, government entities, and thousands of habitants in Amazonas

INRED will use the MEO satellites to connect Leticia and other rural areas in Amazonas that will enable

better access to educational and governmental services. The Amazonas project is the latest in which INRED and SES have collaborated with the Colombian government over the past six years.

"Having a long-term partner such as SES, who operates satellites in both geostationary and MEO orbits and knows our connectivity needs well, we have full trust in SES offering the most ideal satellite network to pave the way to a better

social and economic future for the people of Colombia," said INRED CEO John Ureña.



Telia Estonia reports 43 solar-powered mobile sites with Sunly City

Telia Estonia now has 43 mobile sites now by supported solar panels. These installations, developed in collaboration with Sunly City, aim to power Telia's mobile services with solar energy, benefiting tens of thousands of customers in Estonia, the telco said on Thursday.

Telia Estonia and Sunly City entered into an agreement in 2023, under which Sunly City will construct solar installations near approximately 100 of Telia's mobile masts in the country by the end of this year. Telia Estonia said that the solar installations represent the

company's largest renewable energy project to date

"The entire Telia Company group including Telia Estonia - has committed to achieving net-zero emissions and 100 percent reuse and recycling of waste by 2030," said the company in a statement.

According to Telia Estonia, 40 solar installations were built alongside Telia mobile masts in 2023, with an additional three added at the beginning of this year.

"We are making plans for 2024 and preparing for more construction work," said Telia Estonia. "The plan is to collaborate with our partner to activate nearly all of the 100 solar installations by the end of this year."

The production capacity of the solar installations being developed in collaboration between Sunly City and Telia will reach 1,200kW once all the stations are completed.

Telia is committed to achieving net zero by 2040. To achieve net zero, Telia must reduce emissions by 90% compared to the base year 2018 and neutralize the rest. By 2030, Telia commits to at least halving absolute GHG emissions compared to 2018 and offsetting the rest, while continuing to move towards net-zero.

Sparkle and Arqit achieve PoC IPsec tunnel between Italy and Germany



Sparkle and Arqit Quantum Inc., have successfully completed of a Proof

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of Concept (PoC) on the first Internet Protocol secure (IPsec) tunnel between Italy and Germany using Arqit's Symmetric Key Agreement Platform. The test was supported by Telsy.

The PoC showcases the integration of Quantum Arqit's technology using Symmetric Key Agreement (SKA) into Sparkle's state-of-theart network infrastructure, ensuring enhanced encryption methods for data transmission across geographical borders.

This step marks the creation of a software quantum-safe Virtual Private

Network (VPN), standing as a pivotal moment in network security. Being software based, the SKA Platform is quickly and easily scaled across any existing telecom network ensuring that sensitive data remains protected against potential decryption by future quantum algorithms, thereby mitigating the risks associated with evolving cybersecurity threats.

"Our state-of-the-art global network provides critical services to carriers, institutions and enterprises who choose and trust Sparkle's leading secure connectivity services to keep their data safe. The successful completion of the quantum-safe VPN PoC, preliminary to a large-scale commercial launch, anticipates the potential threat of quantum decryption and confirms our market leading commitment to continuously elevating the security and resilience of Sparkle's infrastructure," said Daniele Mancuso, Sparkle's chief marketing & product management officer.

"Sparkle's establishment of the first quantum-safe VPN between Catania and Frankfurt signifies a key milestone in telecoms cybersecurity. By leveraging Arqit's SKA Platform, Sparkle is pioneering a new era of secure communication, ensuring the resilience of critical networks against the looming threat of quantum adversaries," said David Williams, Arqit founder, chairman and CEO.

02 Slovakia expands 5G coverage

02 Slovakia has further expanded the coverage of its 5G network as it is in the middle of modernising its network infrastructure.

O2's network has been modernised and upgraded in the surroundings of Zlate Moravce, Zarnovica, Komarno, Sabinov, and Brezno, the telco announced recently.

Since the beginning of 2024, O2 has covered 223 new cities and towns, bringing the total number of 5G network sites to 1,232 in Slovakia. As of 15 April, some 76.5% of the country's population could use the 5G network, up from 70.1% in January 2024.

"In the last three months, we have significantly expanded the coverage of our 5G network. We have brought high-speed connection even to areas where it was not available until now. Expanding O2's state-of-the-art mobile network continues to be a top priority to ensure even better experiences for our customers," said O2.



Smartphone shipments up 27.4% yoy

The Indonesia smartphone market saw a sharp rise in smartphone shipments due to the holiday season as it continued its recovery.

According to IDC, in Q1 2024 smartphone shipments grew 27.4% year-on-year to 10 million units, as smartphone vendors capitalised on the Ramadan season.

Devices in the over US\$600 bracket proved popular with a rise of 12.8% yearon-year, with Apple leading the charge. The mid-range segment (US\$200 to US\$600) saw the highest rate of growth at 73.4% as Apple, Samsung, vivo, and Xiaomi grew sharply in this bracket. The under US\$200 segment saw a 17.8% rate of growth led by Chinese vendor Transsion. Average selling price (ASP) of smartphones grew by 1.6% yearon-year to US\$215.

The rate of 5G device shipments grew by 28.2%. This was due to new model releases by OPPO, vivo and Xiaomi, while Samsung continued to lead the 5G market with their expansive 5G offerings. ASP of 5G devices dropped by 21.3% year-onyear to US\$469. Oppo was the largest smartphone vendor by market share with 19.9% followed by Samsung with 17.3% and Transsion with 16.1%. Vivo took fourth with 15.6% and Xiaomi was placed fifth with 15.6%.

"Vendors will try to continue this momentum, through channel expansion, price cuts, and doubling down on marketing strategies, while also facing external challenges such as increasing manufacturing and material costs, weakening rupiah, and uncertain geopolitical situation at the global level," said Vanessa Aurelia, IDC Indonesia research analyst.

Orange and Vodafone expand pilot vRAN technology

Orange and Vodafone have successfully expanded their pilot project in certain rural areas of Romania, including fully integrated 2G virtualized RAN (vRAN) technology, an innovation representing an international first over a shared operational network (RAN sharing).

This achievement represents an important step towards the cloud migration of radio access networks, allowing network operators to consider moving their entire traditional network to fully virtualized RAN spanning 2G/4G/5G networks, in line with European requirements, especially in areas where the shutdown of 3G networks is completed or imminent. The virtualization of 2G networks represents a major step forward and an

opportunity for operators, circumventing the obligation to maintain legacy 2G networks developed on specialized hardware, as well as operating virtualized 4G/5G networks as an overlay.

Orange and Vodafone have achieved this milestone alongside several Open RAN providers. Samsung provided its specialized vRAN software supporting multi-RAT – 2G, 4G and 5G, and its O-RAN compliant radios. Wind River provided the abstraction layer through Studio Cloud Platform on top of the hardware to deploy and scale the RAN software, as well as Dell Technologies, which provided Dell PowerEdge servers equipped with Intel processors and acceleration cards.

The use of Open RAN in a real environment has allowed the operators to benefit from the advantages offered by this solution, such as a high degree of automation and reduced implementation time. Open RAN technology decouples software functionalities from hardware, enabling remote modernization of mobile base stations with new features and services, faster and more costeffectively. Additionally, in the case of RAN sharing, operators are provided with more freedom and autonomy in managing their own virtualized RAN software on a common cloud infrastructure, while network operating costs are shared. This approach reduces the need for site visits due to higher network automation levels and allows operators to differentiate themselves while maintaining cost and energy savings associated with RAN sharing.

"This first development of an

operational Open RAN network in Romania represents an important step for Orange in its transition to more agile and automated, cloud-native networks. Orange will leverage this successful pilot to develop a center of expertise in Romania in the near future, to support large-scale Open RAN implementations across the Orange network in Europe in the coming years," said Marius Maican, technology director at Orange Romania.

"With focus on customer experience we are leveraging on the Open RAN momentum to move to cloud-native networks. Open RAN fosters faster innovation and development of new features and services by allowing multiple vendors to develop in the RAN space," said Nicolae Vilceanu, network director at Vodafone Romania.

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