Oct-Nov, Volume 14, 2023

A SAMENA Telecommunications Council Publication

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SAMENA TRENDS

FOR SAMENA TELECOMMUNICATIONS COUNCIL'S MEMBERS

BUILDING DIGITAL ECONOMIES

Interview

Engr. Sultan Al Wahaibi
CEO
Oman Broadband Company

THIS MONTH

EVOLVING TECHNOLOGY, COLLABORATION, AND REVENUE LANDSCAPE

SAMENA
TRENDS

Publisher
SAMENA Telecommunications Council

trends@samenacouncil.org
Tel: +971.4.364.2700

Editor-in-Chief
Bocar A. BA

Editorial Director
Izhar Ahmad

Contributing Editors
Ali Tahir
Javaid Akhtar Malik

Knowledge Contributions
Nexign

Subscriptions
subscriptions@samenacouncil.org

Advertising
ads@samenacouncil.org

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Evolving Technology, Collaboration, and Revenue Landscape

The past two months have vividly shown that digitalization is now in fast gear, and that advancements across four key fronts are truly driving the future of the ICT industry and those that depend on it.

Given digitalization is made possible fundamentally by connectivity, there four key breakthroughs that we need to account for when assessing the pace of digitalization:

Regulatory adaptation: Various regulators, with which SAMENA Council is closely engaged, are attaining the G5 Regulation classification. NTRA Egypt is the most recent one in the SA-ME-NA region to be recognized in this regard. Earlier, it was CST Saudi Arabia.

Technology evolution: 5G Advanced or 5.5G is now a reality. 5.5G represents a milestone on the path to a smarter, better-connected world. 5.5G will truly help accelerate IoT, and as I mentioned during MBBF 2023, it would help us meet the challenge of the connecting the unconnected. To add, with ITU framework being put in place for 6G and may surface during WRC-23, we can rest assured that 3D technology and metaverse revolution is right on the horizon. The efforts of SAMENA Council's Members, especially Huawei and Nokia, which are doing extensive work to help Operators make the most of 5G investments and optimize 5G infrastructure to deliver exceptional use-cases.

Strategy evolution: Where up until recent years, our Industry was focused on optimizing network performance only, and sometimes at the cost of environment and other factors, now the focus is very much on sustainability. In fact, this is so much so that almost every aspect of the Industry, ranging from operations to power consumption, from customer experience to spectrum allocation, is being assessed from the sustainability perspective. Our evolution toward 5G and advancements taking place in 5G toward 5G-Advanced and, by 2030, to 6G, are to be credited for creating this focus on sustainability. Again, various Members of SAMENA Council, including stc, Zain, e&, Omantel, Mobily, Nokia, Huawei, to name a few outstanding examples, are helping to build sustainable technologies and approaches as well as technologies for sustainability. Moreover, SAMENA Council, in alignment with its Members, and other industry players, has been highlighting the need for greening ICTs in the region, with latest such effort scheduled to be made during COP28.

Uniting against digital divides: SAMENA Council, in collaboration with leading global stakeholder and regional bodies, is fast moving toward developing and implementing a universal broadband funding framework, aimed to unlock new capital for funding connectivity, with pilot implementation to prospectively start from Africa. This is so, because Africa represents the greatest portion of the world's population still-not-catered to by broadband connectivity. As digital technologies evolve, we risk creating even more divides if basic connectivity at reasonable network quality is not brought to those still-unconnected.

Bocar A. BA
Chief Executive Officer
& Board Member
SAMENA Telecommunications Council

These evolving dynamics -- when combined with rising cybersecurity requirement, as recently discussed at GCF 2023, or as what the Internet Society is aiming to achieve in global routing security through the MANRS initiative – are making tremendous impact on how digital future is being created, and how digital progress would be made over the next 6 years.

We can look forward to a great digital future ahead. However, some fronts require extensive collaboration, innovative planning, and sustained momentum in achieving new milestones.

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MWC Africa

At MWC 2023 Africa, SAMENA Council Advocates "Connectivity Collaborations" for Overcoming Infrastructure-Development and Device & Broadband Affordability Challenges in Developing Economies

SAMENA Telecommunications Council, represented by Bocar BA, CEO & Board Member and UN Broadband Commissioner, contributed to the leadership discussions and exchange of insights that took place during Mobile World Congress Africa, held in Kigali, Rwanda. SAMENA Council highlighted that the way we bring access to connectivity must be aligned with what our world has undergone across a myriad of fronts. The investment, funding and financing models that enabled earlier telecoms infrastructure development and its utilization; that provided an environment for today's digital ecosystems to grow; and which allowed for possibilities that citizens would have access to life-impacting content and digital services, no longer suffice. They were created for the market realities and economic perspectives of the 20th century, whereas we are addressing the needs of the 21st century. Recommendations from the Broadband Commission's 21st Century Funding and Investment Models Working Group, which informed recent discussions last month in New York at the Annual Fall Meeting of the Commission, and insights from SMART Africa, stemming from its study on "The Impact of OTT Applications and Services on the Telecommunications Sector in Africa", with a particular focus on taxation, provide a powerful blueprint for addressing digital infrastructure financing needs for the next decade and beyond. Here, implications and impacts of the impending implementation of the OECD's long-awaited framework on International Tax Reform also merit consideration. Bocar BA, during his keynote, remarked that "Through a combination of connectivity collaborations, for example, between Terrestrial and Satellite operators and HAPS; shared connectivity funding, for example, from contributors other than Telecom Operators; technology and regional integration; and by optimizing capacity-building and human development endeavors, economic transformation throughout SA-ME-NA and Africa can be put on a path to growth and sustainability." BA further elaborated that "Because mobile technology has a direct impact on inclusive progress, governments and the private sector should keep eyes on understanding and harnessing 5G's potential as the neighboring regions carry on forward in deploying 5G." However, he added in the context of Africa, "5G roll-out and adoption need to account for the current connectivity landscape, emerging digital services, and unique market features specific to Africa. Thus, the approach needs to be targeted, collaboration-driven and phased, serving needs where they arise rather than opting for large-scale roll-outs."

> *"Bridging connectivity gaps requires not only infrastructural investments but also investments in enhancing digital literacy, curating relevant content, and addressing device affordability"*
>
> ***Bocar BA, CEO & Board Member of SAMENA Council***

"Bridging connectivity gaps requires not only infrastructural investments but also investments in enhancing digital literacy, curating relevant content, and addressing device affordability", BA further elaborated in his message. SAMENA Council observes that Africa needs to leapfrog on multiple fronts, and to accelerate fulfilment of its collective vision and that of the vision of each of its 54 economies. MWC in Kigali was co-located with Africa HealthTech Summit and Smart Africa. The industry event gathered all sub-regions of Africa as well as international attendees from countries looking to do business in Africa. The event focused on four core themes: Accelerate Africa, FinTech, HealthTech, and Powering Digital. The GSMA marked the opening of MWC Kigali 2023 with the publication of its annual Mobile Economy Sub-Saharan Africa Report, which revealed a considerable mobile internet usage gap of 59% in Sub-Saharan Africa. While the report acknowledged over 285 million people in the region – representing 25% of the population – were using mobile internet, the significant usage gap highlights the impact of the barriers to adoption, including the lack of affordability and low levels of digital skills.

WRC-23

SAMENA Council Represents its Terrestrial & Satellite Operator Community in the WRC-23 to Witness Revision of Radio Regulations in View of Global IMT and Space Sustainability Requirements

SAMENA Council, represented by CEO & board member, Bocar BA, is participating in the WRC-23, hosted by TDRA-UAE in Dubai. WRC-23 has brought together governments for negotiations on the allocation of radio-frequency spectrum.

In a message delivered during the WRC-23 on behalf of the United Nations Secretary-General H.E. António Guterres, it was acknowledged that "Radio frequencies, whether on Earth or in space, form the backbone of advanced communications for all of humanity. From education to healthcare, from agriculture to climate monitoring, expanding radiocommunication services and bridging the digital divide are key to reducing inequalities and advancing the Sustainable Development Goals."

ITU's Secretary-General H.E. Doreen Bogdan-Martin emphasized that "We are at an inflection point in tech history, and radiocommunications are at the top of the global agenda... Equitably managed spectrum and the associated satellite orbits are among the best tools in our toolbox to make good on our commitment to build a digital future that works for everyone and for our planet."

Director-General of TDRA-UAE, H.E. Eng. Majed Sultan Al Mesmar, anticipating the Conferences' successful dialogue and consensus on critical matters that concern the digital future, stated: "While today's world is full of challenges, this conference comes to set the course and direct the compass toward sustainable human development by updating the Radio Regulations and establishing international consensus on the frequencies necessary for the coming era. With the broad horizons, it brings in the fields of smart cities, digital economy, knowledge society, space and others, we are confident that this conference will achieve the results that meet the expectations and aspirations of our peoples."

Bocar BA, representing SAMENA Council and its community of Telecom Operators and Tech Providers, stated that: "SAMENA Council extends congratulations to the TDRA-UAE on hosting and organizing the WRC-23 in Dubai. The Industry has confidence in this collaboration between the TDRA and ITU to help steer consensus-building on radiocommunication matters that are very important for governments and Telecom Operators alike. As negotiations on the allocation of spectrum carry on, building an inclusive, sustainable digital future requires the right resources and timely enablement for all stakeholders. Through the efforts of the ITU and TDRA, and with the support of the Member States, particularly the regulatory authorities, we can hope for great outcomes from the WRC-23."

Bocar BA, who also participated earlier in a session focused on the future of space economy, led by the Communication & Space Technology Commission (CST) of Saudi Arabia, further stated that "We are grateful to policymakers and space industry leaders for highlighting the importance of space sustainability, and for emphasizing on the requirements for shaping a sustainable and prosperous digital future in this age when both digital and space economies are integral to global sustainability."

The WRC is organized every four years by the International Telecommunication Union (ITU). WRC-23's ongoing proceedings, scheduled from November 20 to December 15, are focused on updating the Radio Regulations (the international treaty governing the use of spectrum and geostationary and non-geostationary satellite orbits). The Radio Regulations ensure that the use of the radio-frequency spectrum is rational, equitable, efficient, economical, and signal-interference free. Therefore, the ongoing review and revision of the Regulations at the WRC-23, is critical for supporting the introduction of new radio-

based technologies, systems, technologies and services and their growing spectrum requirements, while continuing to protect the vital radio services that are central to the digital infrastructure. The ITU Membership, in both national and global interest to pursue innovative technologies, mitigate environmental impact, connect the unconnected communities everywhere, and to help focus on land, sea, air, and space with a new spirit and new objectives, has embarked on this undertaking to help bring digital-led prosperity for billions of people across the world.

The WRC-23 agenda items include:

- Identifying additional frequency bands for the continued development of International Mobile Telecommunications (IMT), including the use of high-altitude platform stations as IMT base stations for the universal deployment of wireless networks.
- Improvements to the international regulatory framework for geostationary orbit (GSO) and non-geostationary orbit (NGSO) satellites while promoting equitable access for all countries.
- Use of satellite technologies for broadband services to improve connectivity, particularly in remote areas.
- New spectrum to enhance radiocommunications in the aeronautical mobile service, including by satellite, and to facilitate the use of the space research and Earth exploration-satellite services for climate monitoring, weather prediction and other scientific missions.
- The modernization of the Global Maritime Distress and Safety System (GMDSS).
- The regulatory framework for the use of earth stations in motion on board aircraft and ships for communication with GSO and NGSO satellites.
- The future of the ultra-high frequency (UHF) broadcasting band which has implications for television broadcast, program-making and special events, as well as public protection and disaster relief.

The proceedings of the WRC-23, including those in the Radiocommunication Assembly, among other outcomes, have so far helped achieve:

- agreement on "IMT-2030" as the technical reference for the 6th generation of International Mobile Telecommunications;
- revision of ITU-R Resolution 65, paving the way for studies on the compatibility of current regulations with potential 6th generation IMT radio interface technologies for 2030 and beyond;
- adoption of the new Recommendation ITU-R M. 2160 on the "IMT-2030 Framework," setting the basis for the development of IMT-2030. The next phase will be the definition of relevant requirements and evaluation criteria for potential radio interface technologies (RIT);
- adoption of a new resolution on the use of IMT technologies for fixed wireless broadband;
- in accordance with Resolution 219 (Bucharest, 2022), adoption of a new resolution on space sustainability to facilitate the long-term sustainable use of radio-frequency spectrum and associated satellite orbit resources used by space services. This will be supportive of further cooperation with other United Nations organizations and beneficial to the satellite industry;
- adoption of a resolution on gender equality to strengthen, accelerate and widen the active involvement of women in the work of the ITU Radiocommunication Sector (ITU-R).

WRC-23 was preceded by the ITU Radiocommunication Assembly which met in Dubai from 13-17 November to establish the structure, working methods and program of the ITU Radiocommunication Sector. Thousands of industry participants are taking part in WRC-23, including delegates from ITU Member States and ITU Radiocommunication Sector Members representing international organizations, such as SAMENA Telecommunications Council, equipment manufacturers, network operators and industry forums attending as observers.

ITU RDF-ARB

Sustainable Investments, Innovation, and New Collaborations are Critical for Arab States' Digital Transformation & Digital Reformation, Says SAMENA Council During ITU's RDF-ARB

SAMENA Council, earlier this week, participated in the high-level panel at the ITU Regional Development Forum for Arab States (RDF-ARB). RDF-ARB was organized by the International Telecommunication Union's Telecommunication Development Bureau (BDT) and hosted in Manama by the Ministry of Transportation and Telecommunications of the Kingdom of Bahrain. Represented by CEO, Bocar BA, SAMENA Council described the state of digital transformation in the Arab countries. "Digital transformation in the region is at a stage where sustainable investments, innovation, and greater collaborations will play a critical role in advancing digital transformation, followed by continuous digital reformation", stated BA during his intervention in the high-level panel, moderated by BDT Director, Dr. Cosmas Luckyson Zavazava. SAMENA Council is of the opinion that the current pace of 5G deployments and how 5G is being embedded as a part of a national digital systems processes, show that digital transformation is an evolving reality and the Arab region is committed to it. Moreover, from what SAMENA Council has witnessed and advocated throughout October to date this year, digital transformation in the region is in fast gear. This view is in alignment with the Council's recent advocacy efforts with respect to 5G advancements and their role in meeting global connectivity needs, shift to 5G Advanced to unearth new digital possibilities, the need to make regional IPv6 transition balanced, implementing the 10Giga society concept, and just last week, protecting the cyberspace through new priorities. Digital transformation, however, now necessitates ITU's much closer engagement in the region, especially on the innovation and entrepreneurship fronts. Bocar BA also stated: "The opportunities and the challenges we have discussed today [in RDF-ARB] can be seen through the lens of the new Innovation and Entrepreneurship Alliance for Digital Development, [launched recently by the BDT], and I believe we can really accelerate digital transformation through ITU's continued engagement in the region." One of the aims of the November 2023 RDF-ARB was to report on the progress that was made towards the implementation of the outcomes of the World Telecommunication Development Conference 2022 (WTDC-22) held in Kigali, Rwanda in June 2022. Emphasis was given to the five Regional Initiatives for Arab Region, which include: Regional Initiative 1: Sustainable digital economy through digital transformation. Regional Initiative 2: Enhancing confidence, security and privacy in the use of telecommunications/information and communication technologies in the era of new and emerging digital technologies. Regional Initiative 3: Developing digital infrastructure for smart sustainable cities and communities. Regional Initiative 4: Building capacities and encouraging digital innovation, entrepreneurship and future foresight. And Regional Initiative 5: Developing means of digital regulation.

Broadband Commissioners' Meeting

SAMENA Council and Leading Stakeholders Embark on a Groundbreaking Universal Broadband Financing Initiative

SAMENA Telecommunications Council, in partnership with esteemed members of the Advocacy Taskforce of the former UN Broadband Commission Working Group on 21st Century Financing Models to Bridge the Connectivity Gap, including Smart Africa and Digicel, chaired a pivotal Broadband Development Financing Meeting, held at Vodafone Global Headquarters in London on 27th November 2023. Attended by more than 30 distinguished delegates from various sectors, the London meeting marked a significant milestone in global efforts to bridge the digital divide and bring connectivity to the unconnected, including in the SA-ME-NA region and neighboring regions. The meeting's central achievement was the establishment of the foundational elements for a new Universal Broadband Financing Framework. This groundbreaking initiative is set to commence with implementations in Nigeria and Rwanda, underscoring a commitment to enhancing digital inclusion through broadband connectivity, thus setting a precedent for future broadband infrastructure expansion across other markets. The meeting was a testament to the collective resolve to address prevailing connectivity gaps. It brought together ICT ministers, leaders from the ICT industry, funding groups, Telecom Operators, financial institutions, and regulatory bodies, showcasing a unified front in tackling digital divides still prevailing around the world. SAMENA Council believes that this new initiative will have direct impact on broadband affordability, sustainable investments in the digital infrastructure and innovation, and would help Telecom Operators and other stakeholders achieve new milestones in collaboration. SAMENA Council also extends heartfelt gratitude to all attendees for their valuable contributions and an unwavering commitment to this initiative. Together, the participants have set in motion a transformative endeavor poised to make significant strides in connecting the unconnected, making progress on the SDGs, and fostering a more digitally-inclusive world.

Global Cybersecurity Forum 2023

SAMENA Council Highlights Future Network Deployment and Cybersecurity Priorities at Global Cybersecurity Forum 2023

The third Global Cybersecurity Forum (GCF) in Riyadh brought together world leaders and businesses to discuss and take action in the fight against cybercrime. Under the theme "Charting Shared Priorities in Cyberspace", GCF 2023 called for action to unite against impending cyber threats, to prioritize making cyberspace secure, and to build new collaborations among a diverse array of stakeholders and leaders. Cybercrime is already ranking among the top growing threats around the world. Earlier this year, the World Economic Forum had highlighted that investments are greatly being influenced by cybersecurity, with 93% of cybersecurity experts and 86% of business leaders considering likelihood of global geopolitical instability and consequential impact on socio-economic activities. Moreover, and this is in alignment with what was discussed in SAMENA Council's Leaders' Summit 2023 later on, talent shortage and lack of skilled cyber experts are now a major threat to business and societies, especially given the dependence on digital technologies by other sectors. Speaking at GCF 2023 in Riyadh, SAMENA Council, represented by CEO & Board Member, Bocar BA, stated: "Technology advancements such as 5.5G and gearing up toward 6G on the Mobile front and Net5.5G on the fixed network front are truly calling for greater inclusion, greater integration of technologies and industries, and a lot more collaboration on multiple fronts. Cybersecurity is one such front, since the complexity of the ecosystem, access to the network, and numerous uses of the communication infrastructure, inherently make network and data security a daunting challenge. Therefore, we truly need to chart new priorities to ensure a safer, securer, and sustainable cyberspace." In the GCF panel, Bocar BA highlighted the imperative of elevating cybersecurity to an important business strategic value:

SAMENA Council's Views on Cybersecurity

Our inter-dependence, inter-networking, information exchange rests on the need and ability to be able to sustainably use exchange and protect these assets. Given that the Internet or the "cyberspace" or the "information space" is central to the existence of digital economy and to new digital capabilities, experiences ,and possibilities, we have no choice but to protect cyber assets. Hence the need for "cybersecurity". The Information Space is unique as it exists with the participation of ALL and thus requires a collective responsibility from all sectors of society to ensure the respect of laws, rights and norms for the protection of people.

The security of cyberspace is essential for a stable global system, of which Africa is a rising part. Thus, action must be taken to strengthen this security with approaches that enhance trust, the rights of people and societal resilience.

Insufficient cybersecurity results in opportunity costs, system downtime, operational expenditure, lost efficiency, bad image for brands, loss of trust among customers and partners, loss of investment, intellectual property infringement, and damage to human morale, etc.

ITU's Global Cybersecurity Index (GCI) is a trusted reference and it covers all essential areas of focus for cybersecurity... including Technical, Organizational, Legal/Regulatory, Capacity-building, and Cooperation-building aspects.

To advocate sustainability and protection of the cyberspace, international cooperation, the political will, collaboration with industry bodies, such as SAMENA Council and the Global Cybersecurity Forum (GCF) Institute are essential. Expertise

"Cybersecurity should be endorsed at the board level, owned by the CEO while being driven by a common language of risk and opportunities rather than by compliance requirements and penalties. This would provide the necessary mindset from being reactive to being proactive, and hence impact approaches for deploying future networks", he added. SAMENA Council views that deploying the future network at scale is about balancing beneficial use-cases, differentiation, monetization, fulfilment of national and global commitments, and, ultimately, unleashing innovation and making collective progress toward human development. In his intervention at GCF, BA also linked sustainability and future network deployment, including 6G. He added: "If we look at the work being done on 6G, we note that one of the key targets for developing 6G includes cutting the average power consumption of 6G networks in half as compared to 5G, while still supporting peak speeds 100 times higher than today's 5G networks. We are talking about dramatically reducing per-bit energy consumption and carbon emissions. Companies such as Nokia and Huawei, both of which are valued members of SAMENA Council, are making tremendous contributions on future network development and deployment." SAMENA Council observes that future network deployment, including 6G, would greatly require attention to fulfilling environmental, social and economic sustainability requirements, as well as supporting the goals of the Paris Agreement of the United Nations Framework Convention on Climate Change. On the latter front, SAMENA Council is leading a panel discussion during COP28, being held in Dubai in December. As the ITU prepares to issue framework (expected in December) for developing 6G standards, and as various technology companies, including some Members of SAMENA Council, gear up toward 6G research and development, technical requirements, submission process, and evaluation criteria for potential IMT-2030 6G radio interface technologies will emerge, with final set of 6G standards expected to be issued later in 2030.

and resourcefulness of such platforms can be leveraged by both governments and the private sector.

Cybersecurity policy and regulation should be concerned with the welfare of society. Moreover, in the interest of the society as a whole, Policymakers and Regulators need to view the Private Sector as the enabling engine of ICT-driven nation-building and sustainable development and not as a mere revenue contributor to the national treasury. Therefore, before taking any regulatory or interventional steps, sufficient efforts should be made to capture the impact of an intervention on the economic welfare of all participants in the market, including digital ecosystem players, consumers, and the economy.

Operators need to be enabled and incentivized to invest in infrastructure development, including in cyber security infrastructure, to ensure that everyone gets connected, remains connected, and that adequate infrastructure is available for the increasingly bandwidth-hungry and complex services and content, especially in a highly inter-connected and cyber-threat prone environment. Thus, we need to adopt a multi-prong collaboration and incentivization strategy among Operators and Governments.

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Oman Broadband Company is unlocking the potential for Oman to become an increasingly connected nation, supporting the growth of the online economy, allowing new ways of doing business & boosting the rapidly growing SME sectors.

Oman Broadband is focused upon the deployment of a broadband infrastructure, providing equal & open access to telecommunication service providers on a wholesale basis, enabling end users to efficiently leverage high speed fiber connectivity.

Oman Broadband Talks to SAMENA Council

Engr. Sultan Al Wahaibi
CEO
Oman Broadband Company

The Sultanate of Oman has succeeded in demonstrating to the world its ability to cope with crises and deal with them in efficient ways and by effective means. It had become a modern country, with its positive economic growth, progress in development Indicators and a rise in the credit rating, following sustained efforts to reduce public debt and gradual recovery of the economy, in parallel with achieving the objectives of the "Oman 2040" vision, AlWahaibi illustrated.

> *Oman Broadband Company has achieved significant progress in expanding the fiberoptics network in the governorates of Oman and contributing to local development, besides further progress in other important aspects such as the 99% Omanization, training and qualifying Omani employees through several programs, notably "Tamkeen" (Empowerment) program*

Q. As Oman Broadband continues its achievements... What is the current coverage of the fiber optics network in terms of units? Additionally, what are your anticipations for the near future?
A. We achieved positive statistic in this regard, as the units covered with fiberoptics network of Oman Broadband in all governorates reached 735 thousand units, as of September 2023. The units are divided into 387528 units in Muscat, and 322995 units outside Muscat.

The total number of subscribers is 255886 by the end of September 2023. Over the next three years, Oman Broadband is expected to cover more than 99% of units in Muscat, and about 50% outside Muscat of total units in Oman. I would also like to point out that the company's investments and movable assets have

increased to more than OMR 276 million since its establishment in 2014.

Moreover, the company has achieved several positive results, most notable is the total reliance on external funding for project implementation rather than government support.

The company also succeeded in establishing infrastructure used by all licensed telecommunications operators in Oman, along with other initiatives through which it has been keen to support and empower Omani youth through the fulfilment of programs, such as "Tamkeen" (Empowerment).

> *We provide unique services in the Telecommunications sector, which includes providing support to key telecommunications service providers in Oman, as well as operating Oman's largest fiberoptics network, through competent and qualified Omani specialists and a number of contractors and technicians in all governorates.*

Q. What are the company's efforts to enhance supporting SMEs in parallel with the government policies to leverage this sector?

A. There is no doubt that government efforts to uplift small and medium enterprises are evident. Therefore, at Oman Broadband Company, and in accordance with a comprehensive strategic vision, we have taken it upon ourselves to empower small and medium enterprises. This is achieved by assigning several projects directly or indirectly to entrepreneurs with expertise in our field. The value of projects directly assigned to small and medium enterprises has reached over OMR 43 million.

Q. Progress is being made in achieving Omanization since the company's inception. What is the current Omanization ratio?

A. Omanization in the company reached a stunning level, amounted to 99%, which means more than 200 Omani employees in all specialties.

Along with Omanization, the company is keen to involve employees in various training programs to convey their expertise to young people wishing to receive training and practical experience. The company's contribution to training and qualification opportunities has reached more than 760 training opportunities, including those offered by the "Tamkeen" program to new graduates and job seekers.

The company continues to encourage employees to participate in "Masar" (Path) program, which is a specialized program in leadership development, additionally, there are various opportunities accessible for employees, whether within or outside Oman, with the aim of enhancing their skills.

Q. What is the company's role in developing telecommunications services in Oman?

A. We provide unique services in this sector, which includes providing support to key telecommunications service providers in Oman, as well as operating Oman's largest fiberoptics network, through competent and qualified Omani specialists and a number of contractors and technicians in all governorates. The company also provides all training and enabling requirements to ensure fiberoptics network coverage to the largest possible space in the Country. In this regard, we affirm that the company is committed to further expanding and improving the network's infrastructure, to provide a large-scale and high-speed internet access to populations and to participate in the sustainable growth of the national economy.

Q. The company is gearing up to initiate an Initial Public Offering (IPO). Could you elaborate on the significance of this move and its role in fostering the company's expansion?

A. The company is willing to start an initial public offering (IPO) in order to increase the company's public property base, providing liquidity for planned expansions requiring further continuous modernization as an element of attracting foreign investment to Oman, as well as offering savings tools to shareholders, which will support the State's plans to promote financial inclusion.

The IPO arrangements are under way, AlWahaibi added, mentioning that as a preliminary step before the IPO, the company have witnessed the acquisition of Oman Infrastructure Investments Fund "Rakiza" on 39% of ITHCA Group shares in Oman Broadband, the government arm in building and developing broadband infrastructure in Oman. Before the end of this year, a partial exit of approximately 10% to 26% will take place, depending on the ability to finalize negotiations with other investors. This will help to enhance the confidence of investors and shareholders further, as well as strengthening the private sector's contribution in Oman Broadband.

Q. Regarding your expansion strategy, what are the key areas where you are currently focusing on?

A. The company's team continues its efforts towards expanding its network in all governorates, as we aim to reach new areas in the next phase. These areas include: Otab and Al-Sowihira in Suhar, Al-Khashda, Hilat Ar-Rawasheed, Majz As-Soghra, Abo Ad-Doros, Alghowaisa, Sor Ash-Sheyadi, Al-Qashi' in Saham, plus Al-Amera and Al-Rumais in Barka, and a number of areas in Jalan Bani Bo Ali, and AL-Rusail in Muscat, besides some areas in Duqom, as well as Ad-Dahariz and Al-Haffa in Salalah, and others.

Q. Tell us about the 'Affaq' project for covering rural villages implemented by the Oman Broadband Company?

A. This initiative came in implementation of the National Broadband Strategy, the implementation of which was entrusted to the Oman Broadband Company, which is one of the companies of ITHCA Group.

Accessing broadband service to remote rural communities to reduce the digital divide is one of the goals that the strategy seeks to achieve at the national, social, and economic levels, in addition to what has been accomplished in building broadband networks using optical fibers.

This initiative includes covering 600 villages distributed across the various governorates of the Sultanate in accordance with the principle of open access, which allows beneficiaries in these villages to choose the service operator from among the licensed operators in the Sultanate of Oman.

Q. How do you work towards strengthening partnerships with governorates to foster local development?

A. There is no doubt that efforts will continue to enhance various partnerships, and through the company's teamwork, we have successfully activated and developed a partnership model with the governorates to provide broadband infrastructure with the aim of offering and improving internet services and supporting the economic system.

Wide spreading broadband network contributes to increasing the local output due to the efficient acceleration of business and services. This is in addition to broader and faster coverage of high-speed home internet networks, creating job opportunities for the youth in various governorates.

I have high hopes in this partnership model with governorates, and the promising investment opportunities it will create for them, utilizing it to support sectors such as education and health, among other service sectors, which aligns with the national broadband strategy.

Ultra-Broadband Forum 2023 (UBBF 2023)

SAMENA ACCELERATOR on 10Giga Reinforces Critical Role of Fixed Networks in Regional Socio-Economic Development

SAMENA (South Asia Middle East North Africa) Telecommunications Council held its SAMENA ACCELERATOR on 10 Gigabit digital infrastructure on October 13th in Dubai, conducted in collaboration with its member and main technology partner, Huawei Technologies.

Building on the 2021 edition of SAMENA ACCELERATOR, which focused on improving fiberization policies, addressing regulatory and procedural challenges, as well as creating momentum on the shift toward IPv6 transition, the 2023 SAMENA ACCELERATOR on ultra-broadband or "10Giga" networks built a strong case for benefitting from advancements in Fiber and IPv6 innovations.

SAMENA Council believes that advanced Fiber technologies and IPv6, when packaged as critical enablers of Gigabit networks in the SA-ME-NA region, can dramatically help accelerate digital economic development, fulfil ambitious national ICT visions, and pave a path for true industrial and societal transformation in the region

> *The 2023 SAMENA ACCELERATOR on ultra-broadband or "10Giga" networks built a strong case for benefitting from advancements in Fiber and IPv6 innovations.*

and in neighboring regions, such as Central Asia.

In his opening remarks during the SAMENA ACCELERATOR, Bocar BA, CEO & Board Member of SAMENA Council, stated:

"Over the next few years, as we strive to achieve the "Giga" milestone, our objective is to create impact beyond just simple Internet. Fixed-line networks, which literally are the backbone of national digital transformation, and are key to sustainable digital development, are the most important infrastructure for communities and businesses, for resilient communication, and

for fulfilling national digital visions. Moreover, our technological capabilities, which now extend to 5G-Advanced in mobile systems and to Net5.5G in IP bearer and data center network for the intelligent world, will be playing important role to support the end-to-end network quality for 10 Giga Society. Therefore, SAMENA Council is proposing a move toward 10 Giga, and would like to reiterate the importance of timely policy, regulatory, and business decisions in this regard."

BA also highlighted that next-generation networks, IPv6, and cloud communications are the new enablers for sectors and industries, which have a critical role to play in the fulfilment of new transformational national visions, such as "We the UAE 2031".

BA further stated that "We are learning to readjust our priorities to fill key gaps -- whether such gaps are at the policy or regulatory level, investment level, cooperation level, or at the level of incubating new ideas..."

> *The SAMENA ACCELERATOR helped underpin the critical role of fixed networks, which are at the foundation of ICT and digital transformation visions. Regional markets are, in fact, readying for 10Giga technology, which is already here, along with advancements in computing and cloudification.*

The SAMENA ACCELERATOR helped underpin the critical role of fixed networks, which are at the foundation of ICT and digital transformation visions. Regional markets are, in fact, readying for 10Giga technology, which is already here, along with advancements in computing and cloudification. As more choices become available, network and innovations in Fiber emerge, better network quality would require IPv6 – adoption of which is, currently, unbalanced in the region. Speakers drew attention to the need to avoid a new type of digital divide, which could be caused by varying network quality and experience. SAMENA ACCELERATOR also emphasized on the need for agile regulation, and for winning together by working together as regional markets transform toward "10Giga Society".

Mr. Mohammed Bin Ali, Acting Director Telecommunications Directorate, MTT of Bahrain, shared the history of telecommunications policy milestones and the achievements in the telecom market: "We have successfully completed more than 92% of the targets set forth in our national transformation plan (NTP5), and have already realized the gigabit vision. Bahrain has the ambition to be a leading 10Giga society, with nation-wide deployment."

Mr. Latif Ladid, Founder & President of IPv6 Forum, said: "The global IPv6 deployment rate has exceeded 2.5 Billion IPv6 users with 50% penetration of the Internet world. The next step is to develop IPv6 Enhanced innovation. Toward 2030, Net5.5G concept is proposed by the industry, including 10G access network, 400G/800G bearer network, and 800G AI DCN, building end-to-end networks with ultimate experience, to facilitate 10Giga society digitalization."

H.E. Eng. Mohamed Ben Amor, Director General of AICTO, said: "AICTO established the Arab IPv6 Council to promote IPv6 and IPv6 Enhanced, which are important for the digitization of the region. With IPv6 converged transport network and AI data center networks, Net5.5G will build a high-speed and high-quality network infrastructure for the cloud and AI era."

Mr. Lin Yanqing, Principal Consultant of Public Affairs of Huawei, said: "10Giga will be the basic requirement for home broadband due to glass-free 3D and other ultra-high definition streaming video, but for enterprise cloud and AI requirement, it's still not enough. Wi-Fi 7, 10GPON/50GPON, and 400G/800G bearer network will work with AI to ensure user experience. To bet-

ter support sustainability development, the ICT industry has played a key role, enabling green transition of almost all the other industries. From the end-to-end network perspective, full fiber is the answer."

SAMENA Council observes that the region, particularly, and neighboring regions, generally, need to come at par with economies with more experience in digital transformation. To do that, drastic steps are needed to further broadband development and IPv6 transformation, of which moving toward "10 Gigabit" would be a leap forward.

During the SAMENA ACCELERATOR, a short ceremony, which included government representatives from Saudi Arabia and Bahrain, as well as private-sector representatives from broadband, Fiber, and IPv6 focused entities, marked the beginning of SAMENA Council's infrastructure focus on 10Giga.

The SAMENA Accelerator on 10Giga infrastructure development, building on a past edition of the summit on improving fiberization and IPv6 transition policies in the region, aimed to accelerate focus on fixed network development as mobile networks undergo evolution beyond 5G. Leveraging Net5.5G in IP bearer and data center network capabilities for the intelligent world, 10Giga networks will provide the necessary means to future-proof digitalization and digital transformation in the region. To this effect, this 10Giga initiative by SAMENA Council will further pave the way toward building sustainable digital economies in the region.

Huawei Releases 10 Gbps City Initiative with Partners, Enabling New Growth for Digital Economy

At Ultra-Broadband Forum 2023 (UBBF 2023), the 10 Gbps City Initiative was jointly released by the UAE Telecommunications and Digital Government Regulatory Authority (TDRA), Omdia, etisalat by e&, MTN South Africa, Huawei, and more. This initiative calls for the construction of fully connected 10 Gbps cities to provide ubiquitous network experience, accelerate the digital-intelligent transformation of industries, and boost digital productivity.

During keynote speech, speakers shared their advanced concepts involved in implementing 10 Gbps City. Eng. Saif Bin Ghelaita, Executive Director for Technology Development Affairs of the TDRA, pointed out that governments should play a leading role in the construction of ultra-broadband infrastructure to ensure inclusive and universal digital services and bridge digital divides in the intelligent world. Local governments and regulators can accelerate the formulation of supportive policies for 10 Gbps City pilots.

Richard Mahony, Vice President of Omdia, noted that 10 Gbps City is a new type of infrastructure critical to implementing national digital strategies and boosting the digital economy. The construction of 10 Gbps cities involves delivering 10 Gbps to individuals, 10 Gbps to homes, 10 Gbps to enterprises, and 10 Gbps to campuses. It also involves 400GE/800GE converged transport networks and AI DCNs related to the preceding four 10 Gbps access scenarios.

Many cities around the world have released their 2030-oriented digital economy strategies. Cities such as Beijing, Shanghai, Hangzhou, and Riyadh are actively exploring ways to implement 10 Gbps City and 10 Gbps Society to unleash the new momentum of the digital economy.

Huawei Launches the F5.5G-Oriented All-Optical Target Network Architecture for Three Phases

During UBBF 2023, Richard Jin, President of Huawei Optical Business Product Line, delivered a keynote speech entitled "Bring F5.5G to Reality: Milestones on Our Way to Intelligent World". In the speech, Richard proposed the concept of three-phase network construction for the first time. Specifically, there are three driving forces for network development, that is, video (100Mbps network), experience (1Gbps network), and intelligence (10Gbps network). Against this backdrop, Huawei launched the F5.5G-oriented three-phase all-optical target network architecture — all-optical coverage for 100Mbps home broadband, all-optical connections extending 1Gbps to each room, and all-optical computing for 10Gbps Everywhere. The three-phase construction of the all-optical target network can meet the network connection requirements of hot services in each phase, bringing F5.5G into reality and striding towards an intelligent world.

Richard Jin delivering his keynote speech at UBBF 2023

Phase 1: Video-Driven, All-Optical Coverage for 100Mbps Home Broadband

With the continuous improvement of video resolution and the rapid popularization of video interaction and immersive XR, the bandwidth is upgraded from 10 Mbps to 100 Mbps and 1000 Mbps. In this phase, HD video and video interaction become the major driving force to realize the goal of building an all-optical network with a 100 Mbps home broadband rate. Operators need to fully move towards FMC, and replace cooper lines and cables with FTTH all-optical network. Serialized AirPON can accelerate FTTH construction and support GPON and 10G PON compatibility, enabling rapid provision of gigabit services in hotspot areas. Meanwhile, operators need to deploy OTN to metro aggregation layer, and build 3D-mesh 400G ready backbone networks, supporting non-blocking bandwidth and zero video lagging. Typical technological innovations in this phase include FlexPON, DQ ODN, and high-performance 400G.

Phase 2: Experience-Driven, All-Optical Connections Extending 1Gbps to Rooms

With increasingly diversified digital applications, fibers are extended from living rooms to bedrooms, studies, and kitchens, enabling click-and-start applications and delivering an immersive network experience. All these developments pose higher requirements on network coverage, bandwidth, latency, and roaming. In this phase, users are willing to pay for a more premium home network experience. Therefore, End-to-end (E2E) service experience assurance becomes the key to achieving the goal of all-optical connections and 1 Gbps extending to each room. Operators need to upgrade 10G PON to fully deliver gigabit services, introduce fiber-to-the-room (FTTR), metro 100G OTN to CO, backbone 400G non-blocking ultra-broadband. Typical technological innovations in this phase are FTTR, metro pooling WDM, and the intelligent network management and control system.

Phase 3: Intelligence-Driven, All-Optical Computing for 10Gbps Everywhere

AI accelerates content manufacturing and promotes the intelligent transformation of industries. To cope with traffic surges and migration of massive data to the cloud, a computing-centric network is required to provide bus-level connection capabilities. Similar to the CPU, bus, and accessories of a computer, the computing power and storage of the data center (DC) need to exchange information with end-users in real time through a high-performance network to achieve the goal of all-optical computing for 10Gbps Everywhere. In this phase, the FTTR-based all-optical home bus supports connect-and-play of IoT devices and integrates connection, sensing, computing, and storage capabilities for 10Gbps throughout the house. In addition, the all-optical cloud bus based on 50G PON and 800G OTN implements all-optical one-hop user-DC or DC-DC connections. Typical technological innovations in

F5.5G-oriented three-phase all-optical target network architecture

this phase include 50G PON, metro OTN completely to CO, and backbone 800G. In addition, OTN needs to be designed for DC scenarios. Upon this, Huawei launched Kepler, the next-generation OTN platform, delivering more than 100T single-subrack switching capacity. Leveraging new materials and structures, Kepler reduces power consumption per Gbit by 65%, and the power usage effectiveness (PUE) to 1.2.

Huawei launched Kepler, the next-generation OTN platform, delivering more than 100T single-subrack switching capacity. Leveraging new materials and structures, Kepler reduces power consumption per Gbit by 65%, and the power usage effectiveness (PUE) to 1.2. It also provides intelligent computing units to comprehensively improve connection efficiency.

It also provides intelligent computing units to comprehensively improve connection efficiency.

The three-phase all-optical target network can ensure parallel evolution and smooth upgrade from F5G to F5.5G. According to Richard, "Operators need the most appropriate all-optical target network construction solution in different development phases. So far, 100Mbps has changed the content, 1Gbps is changing the broadband experience, and 10Gbps will change society. Let's work together to bring F5.5G into reality and stride towards an intelligent world."

Global MBB Forum 2023

During MBBF 2023, SAMENA Council Highlights 5G's role in Regional Industry Integration, Economic Diversification, and Potential of 5G-Advanced in Connecting the Unconnected

In efforts to harness true potential of 5G and achieving cross-sector 5G business successes, and building adjacent vertical ecosystems to reconnect, rebuild, and reimagine a fully-connected, intelligent world powered by 5G and 5G-Advanced, SAMENA Council supported MBBF 2023, and contributed perspectives and advocated maximization of the potential of 5G investments.

The 14th MBBF Forum was organized by Huawei Technologies, a valued member of SAMENA Council and an integral contributor to regional digital development, including through its mobile, fixed-line, and cloud infrastructure, mobile technologies, and advanced product lines. MBBF 2023 brought new insights on 5G business models, evolution of mobile technologies, improved user experience, green ICT development, among others.

SAMENA Council highlighted that MBBF has helped set a strong foundation for the evolution of mobile technologies, and is a platform that can help demonstrate unwavering commitment of regional governments and the private sector, including technology pioneers, such as Huawei.

Following 5G investments in the region, the path to 5G and 5.5G growth appears to be relatively clear. Treading it, however, requires critical and timely decisions on all parallel fronts, ranging from technology, resources, use-cases, investments, policy and regulation, carbon control, and both social and business value-creation.

CEO of SAMENA Council, Bocar BA, during his keynote speech drew attention to the potential of 5G and 5G Advanced in meeting the region's digital advancement goals. BA stated: "Digital transformation, technology integration, and economic diversification are the three main pillars of inclusive

progress that we are seeing here in the region, especially in the Middle East, and in particularly in the GCC."

It has been proven how important and diversified 5G use-cases can be implemented around the world. It has also been proven that integration of the ICT industry with other industries can effectively address multiple fronts, including making progress on the Sustainable Development Goals.

Bocar BA further added: "Maximizing the true potential of 5G and implementing real-life use-cases through sustainable advancements, is now a top priority. As the 5G journey continues and 5G too evolves toward 5G-Advanced, it would be critical to unlock access to new capital to support new network transformation, leading to 5G-Advanced. I feel, 5G-Advanced may very well help mitigate connectivity gaps for underserved areas and communities".

Coinciding with MBBF 2023, as a separate industry event, SAMENA Council's SAMENA LEAD awards were held to recognize accelerated efforts by the Industry's stakeholders in 5G development.

BA referred to the LEAD awards during his intervention at MBBF 2023: "It has been a pleasure for SAMENA Council to recognize, appreciate, and encourage those who are playing a critical role in 5G development in the region, paving the path for evolutionary 5G advancements that can bring benefit for both business and society."

MBBF 2023 served as an important platform for showcasing 5G evolution, and green 5G solutions and products, including: TDD multi-band multi-channel ELAA for 10 Gbps experiences, the Industry' first FDD full-series GigaGreen to upgrade basic experiences, mmWave AAU with the largest antenna array for continuous 10 Gbps coverage, DIS improvement in performance and energy saving to bring 5.5G indoors, Ongoing antenna and microwave innovation for efficient 5.5G construction, iHash-Band2.0 spectrum pooling for optimal 5.5G spectral efficiency, Full-scenario "0 Bit 0 Watt" for optimal 5.5G energy efficiency, among other innovations.

MBBF 2023 brought firsthand insights and exchanges on groundbreaking technologies, including cloud-native. In the cloud-native tech talk, SAMENA Council also made contributions and emphasized on value-creation in relation to cloudification and 5G evolution.

Huawei Launches World's First Product Solutions with 5.5G Capabilities during MBBF to "Bring 5.5G into Reality"

At the 2023 Global Mobile Broadband Forum (MBBF 2023), Cao Ming, President of Wireless Solution at Huawei, launched the industry's first full-series solutions for 5.5G. At the ceremony, Cao mentioned that "5.5G is well timed to support new experiences, connections, and services", highlighting that "Huawei's full-series 5.5G solutions will help operators deliver full-scenario tenfold capabilities and enable ultra-high energy efficiency, spectrum utilization, and O&M efficiency." 5G has undergone commercial expansion for over four years, developing much faster than previous mobile technologies. Scaled 5G adoption creates new momentum for the growth of the digital economy. 5G is driving a large variety of new experiences, connections, and services. 5G has opened the door to an immersive world for individual and home users. It has extended IoT connections into all scenarios, and has found its way to core production, empowering flexible production, all while accelerating vehicle to everything (V2X) services that drive smart transport. 5.5G has arrived just in time to upgrade the connections of people, homes, things, vehicles and industries. Huawei's full-series 5.5G solutions can help operators efficiently build 5.5G networks thanks to continuous innovations across five categories of basic capabilities: broadband, multi-band, multi-antenna, intelligent, and green. Extremely large antenna array (ELAA) has helped commercial 5G networks noticeably boost TDD coverage and energy efficiency. As telecom moves to 5.5G, ELAA is further upgraded. Based on the new ELAA, the industry's first 128T MetaAAU that integrates over 500 antenna elements can work with multidimensional high-resolution beam algorithms to improve experience by 50%. With the ELAA upgrade, the industry's first dual-band 64T MetaAAU can work with dual-band converged elements to enable the co-coverage between high and low bands, delivering unrivaled 5 to 10 Gbps experiences together with multi-carrier solutions. The mmWave industry has progressed to maturity. The industry's first mmWave AAU embodies more than 2,000 antenna elements to overcome the limitations of mmWave on co-site co-coverage with C-band. Through the coordination between high and low bands, mmWave networks can deliver a peak throughput of 10 Gbps, with an average at 5 Gbps. This AAU also supports intelligent beam management, breaking the limitation of mmWave regarding high-speed mobility and NLOS transmission. LampSite X series integrates five bands and mmWave in one box to support full bandwidth across all bands for all radio access technologies. It also supports super deep dormancy to reduce off-peak power consumption to only 1 Watt. To ensure the coverage required by underground parking areas and other similar areas, the unique multi-band medium-power LightSite module can ensure a 35% better user experience and lower TCO than common DAS solutions. Green antennas leverage direct injection feeding (SDIF) to redefine antenna architecture and Meta Lens to aggregate beam energy for a 25% higher energy efficiency. Microwave has a new platform MAGICSwave to upgrade transport networks. MAGICSwave supports ultra-wide multi-channel transmission to boost backhaul efficiency, with higher capacity for urban areas and longer transmission distance for suburban areas. It features a high level of integration, enabling networks to sustain evolution over the coming 10 years. HashBand2.0 redefines multi-band spectrum usage: Serving cell (MB-SC) enables discontinuous spectrum to be flexibly combined for virtual large bandwidth, making 10 Gbps possible while achieving a 40% higher spectral efficiency. Flexible spectrum access (FSA) supports flexible full uplink band access, bringing uplink to Gbps with a 40% higher spectral efficiency. The full-series equipment supports "0 Bit 0 Watt", becoming the first in the industry to support super deep dormancy with a 99% shutdown depth, on-demand fast wakeup, and millisecond-level shutdown at both the carrier and channel levels. The site solutions realize intelligent coordination between power supplies and equipment, ensuring "0 Bit 0 Watt" at site level. With iPowerStar, site-specific energy saving policies can be implemented based on traffic trends at different times of day, helping realize "0 Bit 0 Watt" at network level. Networks will depend on more bands to provide more services and connections, justifying the trends of 5.5G to advance to high-level autonomy. IntelligentRAN supports L4 intent-based intelligence. This means that prevention and prediction are possible to replace reactive network O&M with proactive methods, networks are aware of service intents to deliver better deterministic experiences, and multi-objective decision-making is supported to optimize service experience and network energy efficiency. "The future has come. Huawei will continue to develop innovative products and solutions in collaboration with all industry partners to bring 5.5G into reality," ended Cao.

SAMENA LEADs 2023

SAMENA Council Holds its LEAD Awards to Recognize 5G Development and Regulatory Efforts Around the Region

SAMENA Council, on October 10th, held its Leadership & Excellence Award in Digital-development ("LEAD") in Dubai. In an auspicious ceremony, the SAMENA Council, along with invited guests of honor, presented the award trophies to winners. LEADs focused on 4 critical aspects in telecoms technology business success, including in 5G.

Over the past three years, Telecom Operators and Regulators have proven the central role that communication networks play in the well-being of our society and of our businesses. In so doing, heavy investments have been made on terrestrial networks; tough business decisions taken in view of shareholder, partner, and customer interests; innovations pursued; and diligent efforts to deliver on expectations from the digital user have been carried out.

In all this, enablement and business-conducive environments were created in alignment with market-specific goals and global commitments made by 193 UN Member States under the tenets of Sustainable Development Agenda almost a decade ago.

As Bocar BA, CEO & Board Member of SAMENA Council stated in his message to the audience, "SAMENA LEAD awards transcend the bounds of inter- and intra-market competition. LEADs are designed to identify our unique strengths, unique value-propositions, and to encourage and capitalize on those strengths as we tread a complex path to sustainable digital development."

The 2023 edition of LEADs acknowledged efforts on Business, Regulatory Enablement, Experience, and Innovation fronts.

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MEMBERS NEWS

stc Group and Red Sea Global Sign a Strategic Partnership to Drive the Digital Success of RSG Destinations

stc group, an engine of digital transformation, has signed a strategic partnership with Red Sea Global (RSG), marking a significant milestone. This agreement aims to facilitate digital transformation and empower tourist destinations along the Red Sea coast by adopting state-of-the-art communication technologies and digital services, focusing on seamless and sustained connectivity services. stc group has entered this agreement to drive digital and technical development in mega projects within Saudi Arabia by priming the connectivity services to all existing and prospective sites in the Red Sea area to revolutionize the region's tourism experience. Red Sea Global is the developer behind some of the largest tourism projects launched by the Kingdom as part of its ambitious Vision 2030, which seeks to diversify the economy and create new investment opportunities. stc group is actively supporting this crucial role by facilitating The Red Sea destination becoming an advanced tourist destination through the implementation of cutting-edge digital technologies. These technologies aim to enhance the quality of life at this vital site, with a focus on providing advanced digital services to visitors. "As a key player in the digital transformation of the Kingdom, we are pleased to continue our support by partnering with The Red Sea destination - one of the largest national initiatives. We recognize the significance of this project for the country and are committed to leveraging our expertise to develop it further", said Olayan bin Mohammed Alwetaid, stc group CEO. "From seamless and personalized services for our visitors, to 24/7 monitoring of the environment, technology underpins our vision for The Red Sea and AMAALA. stc's technology ensures we can meet and exceed the high expectations of our discerning guests, while achieving our ambitions to pioneer regenerative tourism," said John Pagano, Group CEO at Red Sea Global. Under this agreement, stc group will offer advanced connectivity services The Red Sea and AMAALA destinations by delivering tailored solutions with potential expansion into newly developed areas. These services will ensure seamless and uninterrupted connectivity for both destinations. stc will provide advanced communications solutions, including fixed and mobile services with 5G technologies and connectivity through the group's data centers. The collaboration between stc group and RSG goes beyond just providing connectivity. Together, the companies have developed Smart Services to enhance the digital guest experience, including smart EV charging, VMS (smart gates), a Marine security command center, RSG booking engine, and RSG contact center. Additionally, stc customers will benefit from automatic WiFi offloading. This project is a continuation of stc group's contribution to tourism by enabling tourist sites to offer visitors a number of cutting-edge communication technologies. This partnership between the group and RSG is a result of the contribution to the tourism industry. This will lead to new economic growth and development opportunities in smart hotels, smart residences and smart agriculture domains. stc endeavors to go hand in hand with Red Sea Global in its pursuit to serve the Saudi Vision 2030, and this strategic alliance is a crucial step to fulfilling this vision for the Kingdom.

stc Group Discusses Prospects of the Digital Revolution and Cloud Innovation at the Gartner Global Conference Conclusion

stc group, an engine of digital transformation, concluded its participation in the Gartner IT Symposium/XPO™ 2023, the world's most important gathering for CIOs and IT executives, held in Barcelona. The conference witnessed a prominent presence of the group across three subsidiaries, including solutions by stc, sirar by stc, and SCCC for cloud computing services, where it reviewed digital empowerment solutions and prospects for digital transformation. Representatives of the group also participated in the panel discussions, which were held during the conference and received broad interest among the participants. The conversations focused on crucial cybersecurity issues and providing a secure environment for critical communications to enhance the customer experience. Saud Al Sherehi, Vice President of Products and Solutions at stc group, joined a session about "Leading the Digital Revolution: Launching a Strategic Force that Dares" under the umbrella of "Opinion Leadership." The session highlighted keeping up with the rapid pace of the ongoing digital revolution worldwide and incorporating suitable techniques to interact with it within the framework of an integrated strategy for the group. While Talal Al-Bakr, CEO of SCCC, spoke about "Cloud Innovation: Empowering Industries to Innovate Through a New Model of Commitment." He explained the methods of supporting the industrial sector by providing innovative cloud products. Anas Al Khani, the CEO of "specialized by stc", participated in a panel discussion titled "Customer Experience in the Critical Communications Industry". During this, he reviewed the increasing importance of customers feeling safe and confident while obtaining the service by providing a highly secure environment and employing emerging technologies in this field to provide an exceptional customer experience. He also highlighted the value of security for customers as a key pillar of operations. Abdulrahman Al Manea, Chief Product Management & Marketing Officer at "sirar by stc", also spoke at a panel discussion titled 'Fortifying Your Digital Defense: Cybersecurity in the Age of Threats'. It addressed the cybersecurity map and the expanding risks organizations face. He also presented effective strategies, best practices for protecting digital assets, methods of reducing cyber risks, and solutions provided by the company to enhance proactive prevention. The Group seeks to expand its presence in local, regional and global forums to keep pace with the transformations that the group is witnessing in terms of the rapid growth of its international operations, especially in the European continent.

stc Group Launches the Biggest-Ever Expansion of the 5G Network in Its History

stc group has announced the largest expansion of the 5G network in history. Investments will be made `to develop and expand the existing network to cover more than 75 cities and governorates in Saudi Arabia. This project builds on the group's success in delivering 5G network technologies to over 90% of its locations in major cities. The investments made by stc group will contribute to the development and expansion of the network, encouraging the digital economy, supporting local content, creating quality jobs, and enhancing people's lives digitally. This is all in line with the group's expansion and growth strategy. The Kingdom has witnessed a digital transformation since 2006, which was a milestone for the people of Saudi Arabia. They could access the Internet through their mobile phones (before smartphones) using the third-generation network (3G) provided by the Saudi Telecom Company. This company is now known as the stc group, leading the way in enabling digital transformation.

This journey started with the provision of Internet services through the first-generation networks (1G and 2G) in the late nineties. Homes, companies, and Internet cafes were about to the Internet for the first time in the history of the Kingdom. The introduction of 4G services in 2011 enabled users to live stream videos and gain more substantial access to a more robust world of applications, continuing the journey of Internet generations. This mega project is the outcome of these achievements and marks the success of this journey. In 2018, stc group launched the 5G network, marking a significant milestone that initiated a historic transformation in communications

and information technology in the Kingdom and the region. The MENA region's development standards differed from the rest, making it the first commercial launch of the 5G network. This event began a new era, where physical and digital technology boundaries are blurred at blazing speeds with near-zero response time. Currently, stc group is working towards achieving digital transformation at every level, being the most prominent leader of the ICT sector in the region. The group is currently carrying out the most extensive expansion of their 5G network. This initiative aims to enhance the infrastructure, making it more robust and advanced than ever, thus promising to enrich the user experience. The 5G network is the beating heart of the Fourth Industrial Revolution, the Internet of Things, artificial intelligence, and machine education, and a significant driver of national digital transformation. So, how will this historic expansion strengthen the 5G market, sustainability, and local content? More than 35% of the population in 5 major cities in Saudi Arabia, including Riyadh, Jeddah, Makkah, Madinah, and Dammam, were provided with 5G service by stc group in 2019. The 5G service was extended to 75 cities nationwide the following year. The expansion of the 5G network continued and was further accelerated by stc group's "Dare" strategy, which comprised four pillars: expanding in size and scope, renewing the experience, digitizing stc, and performing faster than before. In 2022, the proportion of mobile sites with 5G services surpassed 90% of locations in major cities, marking a significant milestone. Moreover, the second carrier in the 2300 MHz band was introduced in Riyadh and Jeddah to provide greater capacity and better coverage. This year, the group set a new goal by embarking on its largest expansion. It invested heavily in upgrading its existing 5G network to an advanced 5G network across all its towers in the five main cities. This move aims to provide better services and opportunities for retail and business customers while solidifying stc group's position as the leading digital enabler in the region.

stc Group Collaborates with Microsoft to Unlock the Potential of Innovation in Corporate Digital Transformation

stc group, an engine of digital transformation, today announced the expansion of its strategic partnership with Microsoft to further advance its digitalization and drive innovation across Saudi Arabia. As part of the partnership, the organizations will jointly develop and deploy cutting-edge solutions that will transform and empower organizations across various industries, while enabling small businesses to grow and thrive in the digital economy. "Our strategic partnership with Microsoft marks a defining moment in the history of digital transformation for both stc group and the Kingdom of Saudi Arabia," said stc group CEO Olayan Alwetaid. "This collaboration isn't just about technology; it's about promoting a future where Saudi Arabia is at the forefront of global innovation, setting the standard for what's possible in the digital age. Together with Microsoft, we will work to bring the latest technologies to Saudi Arabia and help businesses of all sizes to embrace digital transformation, advance economic diversification, and create a more vibrant and prosperous future for our country." The collaboration between the organizations aims to enable stc's subsidiaries to explore new markets, develop disruptive business models, and bring innovative products and services to market. By jointly developing and deploying the latest advanced technologies, the partnership aims to support high quality, safe, and secure digital experiences for businesses across the Kingdom. The alliance will also serve as an innovation powerhouse, powering the transformation of industries from the Kingdom to the world. "We are excited about this next phase in our journey with stc. Our aim is to empower businesses of all sizes and industries with tailored digital solutions that enable them to innovate and solve their unique challenges to drive equitable business growth." Said Ralph Haupter, President Microsoft EMEA. Bringing stc group's local and regional channels together with Microsoft's partner and developer ecosystem, the partnership will create a virtuous circle of deployment of new baseline services that enables partner-led innovation, which in turn generates demand. In addition, by focusing efforts on skills development and helping to digitize the "non-digitalized", the alliance aims to make the benefits of innovation inclusive and sustainable.

Arabsat Launches Kuwaiti Channel-1 and Al-Qurain Channel Across the Americas

Arab Satellite Communications Organization (Arabsat), the leading satellite services provider in the Arab world, has launched Kuwaiti Channel-1 and Al-Qurain channel in the Americas. The channels were introduced to the North American continent via HD broadcasting on the Galaxy 19 satellite, located at orbital position 97 West, utilizing a frequency of 12146 MHz with vertical polarization. In South America, Arabsat initiated the channels through the Hispasat-6 satellite, positioned at orbital location 30 West, employing HD broadcasting on the frequency 12132 MHz with horizontal polarization. Commenting on the launches, Eng. Alhamedi Alanezi, President and CEO of Arabsat, said: "Arabsat's latest launches demonstrate our dedication to global service. The launches have reinforced our role as a driving force of innovation, leveraging technology to drive the future of broadcasting solutions." The launches will expand Arabsat's reach across the Americas, complementing its current service offering of 650 TV channels, 245 radio channels and a range of HD channels delivered across the Middle East, Africa, and Europe. Arabsat's fleet includes eight satellites strategically positioned across five orbital slots.

etisalat by e& Leads Discussions on Sustainable Networks and Their Role in Shaping the Digital Future

etisalat by e& led a roundtable discussion at the ITU World Radiocommunication Conference 2023 (WRC-23) in Dubai, exploring the theme "Navigating the Future: Sustainable Network in the Age of 5G Advanced". The WRC-23 is currently underway at the Dubai World Trade Centre from November 20 to December 15, organized by the Telecommunications and Digital Government Regulatory Authority. It brings together national government authorities, telecommunication regulatory agencies, and other stakeholders for pivotal policy and technical regulatory discussions on a global scale. etisalat by e&'s roundtable provided a platform for experts to explore the evolution of 5G in the UAE, covering 5G Non-Standalone (NSA), 5G Standalone (SA), and the transformative journey towards 5G-Advanced network capabilities. Participants engaged in insightful discussions, sharing perspectives on the industry's advancements and the role of 5G in shaping the future of connectivity. A highlight of the roundtable was the focus on sustainability initiatives, aligning with etisalat by e&'s commitment to the net neutrality targets of the UAE. The discussions showcased how etisalat by e& is actively contributing to the country's sustainability goals and provided a preview of the initiatives that will be showcased at the upcoming 28th Conference of the Parties to the UNFCCC (COP28) in Dubai. "etisalat by e& is proud to lead conversations on sustainable networks and their crucial role in shaping our digital future. The roundtable provided an opportunity for collaborative dialogue on the evolution of 5G and our collective commitment to sustainability, highlighting etisalat by e&'s commitment to innovation, sustainability, and the continuous evolution of telecoms in the UAE and beyond," said Khalid Murshed, CTIO at etisalat by e&. As part of e&'s environmental, social, and governance (ESG) commitment to create a greener tomorrow, e& will introduce recycled 'Green SIM Cards' ahead of COP28 for its UAE customers. Manufactured from recycled consumer electronics, the new cards are more environmentally sustainable

than traditional cards with lower carbon footprint. In a major technological advancement announced at GITEX Global 2023, etisalat by e& set a global milestone in 5G downlink speed of more than 13 Gbps, continuing to push performance with this major advancement in the 5G network and maintaining UAE's position as the fastest mobile nation in the world. etisalat by e& has further elevated connectivity in the UAE by making the commercial 5G SA network available for all mobile users. For the first time, mobile users will be able to use a complete Stand Alone 5G network providing access to higher uplink speeds, improved device battery life, and faster connectivity to the network. This follows the successful 5G SA service launch for Fixed Wireless Users (FWA) at the start of 2023, providing consumers access to a reliable nationwide standalone network allowing for seamless voice and data services across the country.

e& Wins Project of the Year – Satellite at the Global Carrier Awards 2023

e& announced its recognition at the 19th Global Carrier Awards for 'Project of the year – Satellite, reaffirming its steadfast commitment to driving transformation and delivering exceptional performance in the industry. These annual awards held in London celebrate innovation and excellence across the entire telecom ecosystem. Over 3,000 industry global experts gather every year at this significant event for the connectivity industry. Nabil Baccouche, Group Chief Carrier & Wholesale Officer at e&, said: "We are privileged to receive this award that highlights e&'s network capabilities, reach and commitment to quality as well as its strong fundamentals, a well-developed infrastructure, and a global network of partnerships. This award highlights the capabilities and success of the globally recognized e& teleports, which deliver innovation to the marketplace through its differentiated offerings and the strategic partnerships we have formed over the years." e& was recognized for the most visionary satellite project, mainly for its capabilities as a hub for international players in the region. e& earth stations are connected via robust resilient network to ensure maximum up-time for the operations, making it a reliable facility for customers and partners. The jury also recognized e&'s successful initiatives to improve access to communications in the region, along with its customer and revenue growth, market disrupting innovations, first-to- market technology implementations, and industry collaboration efforts.

etisalat by e& and Huawei Complete Commercial Service Ready Implementation of a Network Slicing on 5G Cloud Core

etisalat by e& and Huawei recently demonstrated the Middle East and Africa's one-of-its-kind 5G network slicing on a commercial 5G Cloud Core. This is a significant milestone for both companies and a transformational benefit for the United Arab Emirates vertical industries. This also marked a ground-breaking step for etisalat by e& towards the commercialization of the Network-as-a-Service. Network slicing involves creating multiple virtual networks on a shared physical or dedicated network, allowing operators to offer customers different network parts based on their specific needs. Each network slice is individually configured with its security measures and latency settings, tailored to meet the requirements of various applications in a Network-as-a-Service fashion. etisalat by e& can now efficiently allocate network resources by utilizing cloud-native virtualized applications on the 5G Cloud Core, integrated with Network Orchestrator, Network Slice Management Function, and Communication Service Management Function. Network slicing enables effective resource utilization, cost reduction, and operational efficiency. For this successful demonstration, etisalat by e& used a commercial 5G smartphone, commercial radio access network (RAN) equipment, and their commercially deployed 5G standalone core. The company performed a test that thoroughly evaluated the end-to-end service SLAs capabilities implementation on a virtual network slice, confirming the optimal functioning of various components such as the device chipset, operating system, applications, radio network base station, and network core. etisalat by e&'s cloud-based Core will be accessible for devices compatible with 5G network scaling. Combining network capabilities, End-User Interface platforms, and an understanding of enterprise applications connectivity requirements, etisalat by e& aims to create A One-Stop Shop library of Product Catalogs for various vertical industries. When choosing from a wide range of connectivity services, enterprises can greatly benefit from utilizing Product Catalogs. These catalogs offer a thorough understanding of the company`s offerings, including the option for add-on applications and various business models. This level of detail can provide valuable insights for enterprises seeking comprehensive solutions. The company aims to expedite the availability of its commercial Slicing services network nationwide. Their growth strategy focuses on

5G mobility, nationwide broadband, mobile edge computing, and business solutions. This deployment will significantly improve network performance and ensure unprecedented service agility, flexibility, and automated scalability, with notable growth in 5G adoption and fixed wireless broadband momentum. Khaled Al Suwaidi, Senior Vice President, Core Networks and Platforms, etisalat by e&, said: "We are proud to partner with Huawei to further strengthen our technology offerings that plays a integral role in the acceleration of digital transformation driving thousands of industries towards cloudification, urging the need for agile and differentiated service SLA to meet the diversified service requirements. The Network-as-a-Service using Network Slicing Technologies has become one of the main pillars significantly improving the availability of different connectivity options for vertical industries with efficient business models and high-quality connectivity services." Gavin Wang, Head of Etisalat Key Account at Huawei Technologies, said, "The UAE continues to be at the forefront of adopting cutting-edge technology as it strengthens its position as a global technology hub. Huawei has enjoyed a long-standing, successful partnership with etisalat by e&, and we will continue leveraging our advanced solutions and extensive experience to enable etisalat by e& speed up its network evolution and offer a more comprehensive range of top-notch communication services to industry customers. Huawei is honored to have played an integral role in building the foundation of the UAE's digital economy and boosting intelligent digital transformation across the country and the wider Middle East and Africa region."

e& Enterprise Positioned as a 'Major Player' in the IDC MarketScape 2023 for Worldwide CPaaS

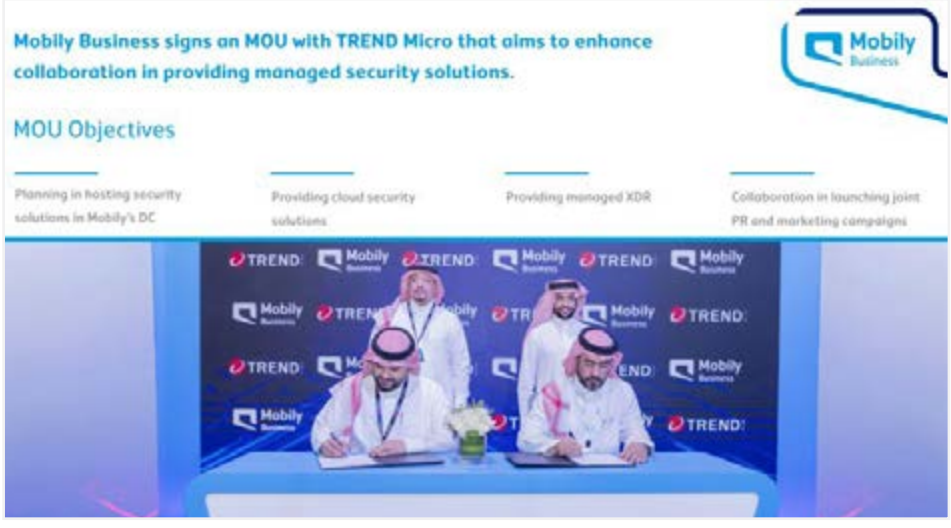
e& enterprise announced that it has been positioned as a 'Major Player' in the IDC MarketScape: Worldwide Communications Platform as a Service (CPaaS) 2023 Vendor Assessment. The 2023 IDC MarketScape for CPaaS, the ICT industry's leading vendor assessment tool, marks a key industry shift and offers the most comprehensive study on CPaaS providers that operate across various continents and generated a minimum of $50 million in 2021 revenue. engageX, e& enterprise's CPaaS solution introduced in 2020, supports the growth of e& enterprise in the UAE and KSA, with plans for additional territorial expansion. It has managed offerings ranging from digital omnichannel to AI enabled solutions to customer experience consultancy establishing itself as a comprehensive customer engagement services stack. Miguel Angel Villalonga, CEO of e& enterprise Cloud, said: " We are proud to represent our region on a global scale, showcasing the boundless innovation and creativity that stems from here. We believe this recognition as a Major Player in the IDC MarketScape reaffirms our commitment to driving innovation by investing in solutions that will enhance and transform the way enterprises conduct their business. Our vision with CPaaS has always been to redefine the way businesses communicate, enabling seamless experiences in engaging with consumers. As we reflect on this milestone, our vision remains fixed on what lies ahead, expanding our presence across geographies and customer segments in the coming year." Courtney Munroe, IDC Research Vice President, WW Telecommunications, said: "e& enterprise has demonstrated a commitment to this dynamic segment and has a implemented seamless multi-channel solution to help companies enhance their overall customer experience. They have a comprehensive digital customer engagement platform which makes them an appealing choice for companies seeking to streamline and elevate digital-first omni-channel customer engagement." EngageX specializes in enhancing the customer experience journey by seamlessly integrating personalized communication channels, leveraging advanced AI-powered solutions, and providing real-time support to create meaningful and memorable interactions at every touchpoint. Our comprehensive services encompass CX consultancy, offering expert guidance in optimizing customer experiences to drive business success. Additionally, e& enterprise's dev ops capabilities, combined with its managed services component, ensure a seamless and efficient implementation process, allowing businesses to focus on delivering exceptional customer experiences without worrying about technical complexities. Our mission is to empower businesses to forge stronger connections with their customers, fostering loyalty and driving sustainable growth Furthermore, engageX offers versatility, from digital omnichannel solution to advanced analytics features. Beyond these capabilities, the brand has earned accolades for addressing specific regulatory challenges in sectors like healthcare and banking, especially in the Middle East and Africa (MEA).

Mobily Records a 40.5% Increase in Net Profit in 9M 2023

Saudi Arabian mobile network operator (MNO) Etihad Etisalat (Mobily) has published its financial results for the three months ended 30 September 2023, reporting a 7.1% year-on-year increase in revenues to SAR4.100 billion (USD1.1 billion), up from SAR3.828 billion in 3Q22. The company claims that the positive result was due to the growth of all revenue streams, coupled with 'healthy growth' in its overall subscription base. Further, EBITDA increased to SAR1.596 billion in 3Q23, up by 8.0% y-o-y, while interest and financial charges grew 8.0% y-o-y to SAR162 million in the period under review, reflecting the increase in interest rates. Net profit, meanwhile, improved by 40.5% y-o-y from SAR373 million to SAR524 million in 3Q23. CAPEX for the first nine months of 2023 amounted to SAR949 million versus SAR935 million for the same period of the previous year.

Mobily, Trend Micro Join Forces to Accelerate Cybersecurity Resilience in Saudi Arabia

Trend Micro Incorporated, a global leader in cybersecurity solutions, announced the signing of a Memorandum of Understanding (MoU) with Mobily, the leading telecommunications operator in Saudi Arabia, in a strategic move that underscores their commitment to reinforcing cybersecurity in the kingdom of Saudi Arabia. The announcement was made at Black Hat MEA, the largest infosec event in the region in the presence of Dr. Moataz Bin Ali, Regional Vice President and Managing Director, MMEA, Trend Micro, Rasheed Al Odah, Managing Director, KSA, South UAE, Bahrain and Levant, and MEA Service Director at Trend Micro and Eng. Majed A. Alotaibi, Chief Business Officer at Mobily and Eng. Muhammad Al-Badrani, VP Digital & ICT solutions at Mobily. Through this partnership, Trend Micro will deliver advanced security solutions utilizing Mobily's modern datacenter infrastructure, guaranteeing strong data protection and security for Mobily's clientele. Furthermore, the company will present customized cloud security solutions, specifically designed to cater to the distinct needs of Mobily's business customers, providing a thorough cybersecurity structure for safeguarding cloud-based operations. "As a leading telecommunications operator, Mobily is dedicated to ensuring the highest level of security and reliability for our valued customers. This partnership with Trend Micro represents our commitment to enabling businesses to flourish in the digital realm while staying safeguarded against evolving cyber threats," said Eng. Majed A. Alotaibi, Chief Business Officer at Mobily. "We see this collaboration as a pivotal step in strengthening our security infrastructure and enhancing our customers' digital journeys, bringing them closer to what truly matters in today's interconnected world." In its H1 2023 Midyear cybersecurity report, "Stepping Ahead of Risks," Trend Micro revealed that its solutions neutralized more than 54 million threats blocked in Saudi Arabia alone during the first half of the year. The report breaks these numbers



down into categories including 22 million email threats, 5 million URL threats, 14 million malware threats, and upwards of 190,000 Smart Home Network (SHN) events, among others. The data from the report highlights the pressing need for a robust cybersecurity framework to ensure the sustained success of enterprises within Saudi Arabia in the face of evolving digital threats. "This partnership with Mobily is not just a collaboration; it's a transformative leap forward in our mission to fortify the security landscape in the kingdom of Saudi Arabia. By hosting advanced security solutions on Mobily's data center and delivering tailored cloud security, we are not only providing cutting-edge technology but also empowering businesses with the essential tools they need to not only survive but thrive in the dynamic and challenging digital age," Dr. Moataz Bin Ali, Regional Vice President and Managing Director, MMEA, Trend Micro. "This partnership heralds a new era of cybersecurity resilience, and we are committed to making this digital transformation a secure and confident journey for all our customers." This collaboration will enable both companies to enter new markets and expand their customer base, resulting in increased sales, broader market share, and notable business growth for both entities.

Mobily Awarded 'Best Middle Eastern Carrier' at the Global Carrier Awards 2023

Mobily, the leading telecommunications provider, announced that it has been awarded 'Best Middle East Carrier' at this year's Global Carrier Awards (GCAs). This prestigious event took place alongside the renowned Capacity Europe 2023. Mobily's achievement reflects its ongoing commitment to providing innovative digital solutions in wholesale services on local, regional, and international levels. The award also highlights the effectiveness of the company's strategies, which focus on building numerous partnerships. These collaborations aim to adapt Mobily's services and business model to meet the ever-changing needs of its customers and partners, driving forward the digital transformation in the Kingdom. The GCAs are a significant recognition in the wholesale telecoms industry. The ceremony sees top global entities in communications and tech services compete for honors across various categories. It is worth noting that

Mobily has recently launched the Digital Hub initiative, which aims to strengthen the Kingdom's position as a premier regional center. This initiative encompasses a comprehensive system: submarine cables bridging the world from east to west, terrestrial networks, data centers, landing stations, and an Internet exchange – the globally neutral JED1 IX. This system not only boosts business agility but also ensures data security and delivers a dependable communication experience, all in support of the digital infrastructure in the Kingdom.

Omantel Net Profit Jumps 28.7% in 9M 2023

Oman Telecommunications Company (Omantel), the Sultanate's incumbent telecoms operator, reported revenue of OMR2.19 billion (USD5.7 billion) for the first nine months of 2023, an increase of 10.6% from OMR1.98 billion in the year-ago period. Zain Group contributed revenue of OMR1.75 billion, while domestic turnover rose 8.2% to OMR458.1 million, primarily driven by an increase in wholesale transit revenue, device revenue and mobile post-paid services. Group EBITDA rose 5.7% from OMR738.4 million in 9M 2022 to OMR780.3 million the following year, while group net profit jumped 28.7% year-on-year to OMR251.0 million. Domestic net profit was 0.4% lower year-on-year, however, totaling OMR54.7 million, amid aggressive competition in both the mobile and fixed markets. Omantel's total domestic subscription base was 3.363 million as of 30 September 2023 (or 3.972 million including mobile resellers), up 4.9% from 3.207 million a year earlier.

Omantel Hosts Annual Global Carrier Community Meeting

Represented by the Oman Telecommunications Company (Omantel), the Sultanate of Oman hosted the annual Global Carrier Community Meeting (GCCM Middle East 2023). The two-day event is organized by the Carrier Community, headquartered in Berlin, Germany. GCCM Middle East 2023 is attended by more than 600 telecommunications professionals, representing decision-makers of more than 300 telecom operators, content providers and suppliers from more than 50 countries. The event offered an opportunity for members of the wholesale telecom operators community to hold business meetings. The community represents companies providing international services for phone calls, data, SMS and services via submarine cables, satellites and data centers, among other sectors. The event includes panel discussions and furnishes a platform for the participants to meet their counterparts, build relationships, exchange experiences, strike deals and other related business activities.

Zain Kuwait Joins Rival in Demonstrating 5G New Calling

Zain Kuwait has showcased its network's capabilities for the rollout of 5G New Calling (5GNC), having successfully trialed the new technology, it announced in a press release which highlighted the cellco's recent participation in the GSMA's New Calling Summit 2023 event in Paris. Zain indicates that it has scheduled a commercial 5GNC rollout 'in the near future.' The company has also collaborated with major industry players to publish a whitepaper that provides an overview of 5GNC and its use cases, the standardization progress to support it, proof of concepts and pre-commercial trials, among other elements. 5GNC leverages the IP Multimedia Subsystem (IMS) to enhance calls with new capabilities for voice and video services, directly over the network without using data traffic, promising 'ultra-HD, intelligent, and interactive calling features on the native call screen without the need for any additional or external apps.' Users can enjoy 'rich intelligence features not available in traditional calls, such as voice and video recognition, instant live translation in real-time during the call, inclusion of fun avatars and filters to video calls, and more.' Particular benefits are highlighted for companies offering customer service hotlines: 5GNC can allow customers to easily interact with menus to solve their inquiries faster and more efficiently. 5GNC also opens up new opportunities for enterprises to interact with their customers by allowing them to complete business transactions through calls. Zain Kuwait launched Voice-over-5G (Vo5G) in May 2022, claiming a global first in terms of a commercial Vo5G service with nationwide coverage.

Zain First and Only Operator in Kuwait to Win Three Major Awards from Ookla® Speedtest®

Raising the bar yet again with an impressive achievement that reaffirms its leadership position in the local telecom & ICT industry, Zain announces that it has become the first and only operator in Kuwait to win three major awards in the same year from Ookla Speedtest, the renowned global leader in connectivity intelligence, for Q2-Q3 2023. The three prestigious accolades, 'Fastest 5G Network', 'Best 5G Video Experience', and 'Fastest Internet', came after Zain's network successfully topped the extensive analysis carried out by Ookla on hundreds of thousands of user-initiated tests made by consumers in Kuwait. The tests were carried on all of Kuwait's major networks throughout the previous months, and Zain deservedly scored the highest results in the above three categories. Commenting on the occasion, Zain Kuwait Chief Executive Officer Eaman Al Roudhan said: "We're proud to announce this unmatched achievement, which affirms the fact that Zain is Kuwait's number one network. Once again, we have proven that we are the market leader, and have further solidified our position in the telecom and ICT industry." Al Roudhan continued: "Our ongoing investment in upskilling our employees and cultivating our human resources is key to realizing Zain's vision and continuing its leadership journey. In addition, we will always strive to elevate our customers' experience because it is the real guarantee for growing our powerful brand and it drives us to invest more in 5G networks and innovative digital tools." The CEO added: "As a responsible organization that takes its social and economic commitments seriously, we continue to work eagerly and passionately to empower Kuwait's vision to build a digital infrastructure, increase digital maturity in our community, and achieve our sustainable goals. Looking forward, we strive to continue our leadership with the rollout of 5.5G technology, opening up entire new horizons for our customers and community." Stephen Bye, President and CEO of Ookla, a division of Ziff Davis, commented: "After conducting an in-depth analysis of consumer-initiated tests taken with Speedtest®, Zain has been named the Fastest 5G Network, Fastest Internet, and Best 5G Video Experience in Kuwait by Ookla's Speedtest® Awards." "This award is given to network operators that demonstrate exceptional speed and performance in comparison to other major networks in the market for Q2-Q3 2023. We are thrilled to acknowledge Zain for this achievement, which is the result of their unwavering focus on delivering a superior network experience to their customers." Bye continued.

'Fastest 5G Network' Speedtest Award™

Ookla compared over 200,000 user-initiated 5G tests taken on the Speedtest® iOS and Android mobile apps from all the major mobile carriers in Kuwait during the award period to determine who showed the fastest mobile network speeds. Zain's network topped the results with a Speed Score™ of 332.81, with a download median speed of 405.32 Mbps, and an upload median speed of 31.99 Mbps. The final score is based on several factors, with emphasis on the download speeds and median speeds as those represent what most customers will experience on a day-to-day basis. This award directly reflects Zain's unwavering efforts to bring the biggest and most powerful 5G network in the nation to its customer base. In 2019, Zain led the market by being the first operator to commercially launch 5G services, setting a new precedent in the local and regional telecom industries. Since then, more successes have followed in adapting 5G technologies to overhaul customers' digital journeys. Zain continues to heavily invest in its 5G infrastructure with world-class technologies, achieving the highest speeds and best operational efficiency levels. The company seeks to meet the increasing demand on data, while exploring new ecosystems only possible by this revolutionary technology, with the ultimate goal of serving all needs of consumers, businesses, and government agencies.

'Best 5G Video Experience' Speedtest Award™

Ookla compared over 6,000 tests taken on the Speedtest® iOS and Android mobile apps and while connected to a 5G mobile network. Zain's network topped the results by scoring 80.32 on the Video Score™, with the results being based on five components, each measuring a different aspect of consumer video experience. Zain offers its customers the biggest library of entertainment content through its expansive ecosystem of strategic partnerships with MENA and the world's largest content providers. The company brings tens of thousands of hours of entertainment and sports content on its biggest 5G network, ensuring customers have the best video experience to watch

whatever they like, anytime and anywhere they are.

'Fastest Internet' Speedtest Award™

Ookla compared over 1,000,000 user-initiated tests that were taken on various Speedtest applications connected to a fixed network, including tests taken on mobile phones over a Wi-Fi connection. Zain's network topped the results with a Speed Score™ of 162.81, with a top download speed of 473.23 Mbps, and a top upload speed of 83.58 Mbps. The final score is based on several factors, with emphasis on the download speeds and median speeds as those represent what most customers will experience on a day-to-day basis. Fixed networks offer superfast speeds with low latency times, making them ideal for gaming enthusiasts. With its powerful, nationwide network, Zain offers a variety of plans for gamers to serve their unique needs and give them the best online experience. The company also offers a wide range of gaming products, like the latest gaming PCs and consoles, original accessories, and much more.

Zain Group Releases its 2023 Thought Leadership Report Entitled, "Building Inclusive Societies Through Connectivity"

Zain Group a leading provider of innovative technologies and digital lifestyle communications operating in seven markets across the Middle East and Africa, announces the publication of its latest annual Thought Leadership Report entitled, 'Building Inclusive Societies Through Connectivity'. The report was launched during GITEX Global 2023 in Dubai, UAE and highlights the various phases of connectivity that Zain has operated over four decades, and the profound impact this connectivity has had on society. Through acquisitions of operating companies across the Middle East and Africa since its establishment in 1983, Zain underwent rapid and significant transformation and growth, expanding from a national public sector monopoly to a regional private sector telecom leader, showcasing forward thinking, visionary strategy, and a strong focus on ensuring community and societal transformation. In many respects, Zain's story shows how the region has adapted and evolved through the adoption of advanced technologies. Also, by the company focusing on ensuring it provides inclusive services to all segments of society including the most vulnerable, leads to further growth and developments in the communities it operates in. Bader Al-Kharafi, Zain Vice-Chairman and Group CEO commented, "Our 2023 Thought Leadership Report is inspiring by the story it tells of Zain's journey over its 40 years of dedication, commitment, and forging the road ahead on a path to providing state-of-the-art communications services across Zain markets ensuring that its products and services are inclusive, scalable and address the connectivity needs and expectations of our stakeholders." Al-Kharafi continued, "We take pride in the knowledge that the company enabled economic growth and development, embraced technology, overcome adversity, and worked determinedly to uphold human rights and promote dignity, fairness and equality through providing meaningful connectivity leading to equitable systemic change to millions. We pledge to continue to be a force for good." The power of meaningful connectivity served as a great transformative tool for both the business and society leading to greater and more inclusive access to education, health services, employment, skill development, financial services, and economic upliftment. Zain has been at the forefront of these developments since wireless connectivity was first introduced in the region, and recapping the company's trajectory over the decades in this report is important as it provides inspirational insights to the

achievements made to date and offers additional impetus for further inroads into providing meaningful connectivity for even greater number of people.

Zain Group Reports a 10% Increase in Revenues in Q3 2023

Kuwait-based telecoms group Zain has published its consolidated financial results for the three months ended 30 September 2023, reporting a 10% increase in revenues year-on-year to KWD485 million (USD1.6 billion), while EBITDA increased 7% annually to KWD183 million. The company booked a net profit of KWD60 million in the three months under review, up 11% y-o-y. For the first nine months of 2023, Zain generated consolidated revenue of KWD1.4 billion, up 11% y-o-y, while consolidated EBITDA for the period reached KWD530 million (up 8% y-o-y) and consolidated net income increased 13% y-o-y to KWD172 million. Over the nine months to 30 September 2023, Zain's CAPEX investments (USD275 million) focused predominantly on fiber-to-the-home (FTTH) infrastructure, 4G upgrades and 5G rollouts. In operational terms, Zain Group reported a consolidated subscription base of 52 million at 30 September 2023. The Saudi Arabian unit reported 8.9 million subscriptions (up 4% y-o-y) in Q3 2023, while Zain Iraq saw its subscription base remain flat at 18.0 million. Zain Sudan's subscription base stood at 15.6 million at that date, down from 16.2 million in September 2022, while Zain Jordan reported a 4% annual increase in its subscriptions to 4.0 million. Bader Nasser Al-Kharafi, Zain Vice-Chairman and Group CEO, commented: 'Despite the many socio-economic and competitive challenges across our markets, the impressive 9M financial performance reflects the implementation of our value-creative '4Sight' strategy in propelling efficiencies, digital transformation and revenue growth. The remarkable operational performance of all our key markets is very gratifying and testament to the coherence between the Group and local management teams in driving synergies and growing the business through multiple initiatives.'

Zain and Kuwait Foundation for Advancement of Sciences Sign MoU

In a new step that reflects their unwavering efforts to support and grow the innovation and entrepreneurship ecosystems in the community, Zain and the Kuwait Foundation for the Advancement of Sciences (KFAS) have announced signing a memorandum of understanding. The two organizations are joining forces to accelerate capacity building, upskill national talents in the private sector, grow research & development in innovation, enable social enterprises, and empower local entrepreneurs. The MoU was signed at KFAS headquarters in Kuwait City, attended by Zain Kuwait CEO Eaman Al Roudhan, KFAS Director General Dr. Ameenah Farhan, and top executives and officials from both sides. This partnership embodies Zain and KFAS's joint vision to foster innovation and promote entrepreneurship in Kuwait, continuing their long-term missions to upskill national talents in science and technology and empower local startups, who form a vibrant part of the nation's economy. Under this partnership, Zain and KFAS will join their expertise and resources to present several development programs and community initiatives that upskill national talents, empowering them to enter the highly competitive market. The programs are designed to tackle the needs and requirements of the Kuwaiti private sector, with key topics like leadership skills, digital competencies, management and business skills, and sustainable strategies. The two organizations will also host programs for capacity building in innovation and technology, targeting various age groups with a special focus on young people. Such programs will feature unique training sessions and interactive workshops that cover technical and digital skills to cultivate the youth's creativity, support their talents, and embrace their passions. The agreement also explores means to enrich research & development for innovation, with the aim of promoting sustainable corporate practices and transforming traditional workflows. By having innovation as the main drive for corporate strategies, organizations can contribute to achieving the nation's

developmental goals. One of the key topics covered by the MoU focuses on empowering entrepreneurs and supporting local startups. Certified trainers and experts from KFAS will join in facilitating highly specialized sessions and workshops for entrepreneurs under Zain's award-winning tech startup accelerator program, Zain Great Idea. This agreement goes in line with Zain's Innovation Nation initiative, under which all of Zain's innovation and entrepreneurship programs fall, especially within science, technology, engineering, and mathematics (STEM) areas. The initiative mainly targets the youth, and centers around a number of pillars, including entrepreneurship, investment, startup acceleration, supporting inventors, fostering innovation, and more. In a previous step to support the growth of innovation in Kuwait, Zain signed an MoU with Sabah Al Ahmad Center for Giftedness and Creativity (SACGC), a KFAS center. The agreement built a new strategic partnership that focused on elevating the digital literacy of the youth, empowering creativity and innovation, and enhancing the local startup ecosystem in the community. The partnership resulted in many successful programs and initiatives, most notably a summer bootcamp that upskilled over 800 children and young people through 130 courses and workshops that covered the fundamentals of electronics, robotics, 3D printers, programming, artificial intelligence, and more. The MoU fostered a joint collaboration between the two partners to elevate digital literacy, develop digital competencies, support the local startups ecosystem, empower Kuwaiti inventors and innovators to excel, and more to serve the nation's developmental, economic, and social goals. Through its journey that started over 46 years ago, the Kuwait Foundation for the Advancement of Sciences seeks to harness science, technology and innovation in Kuwait, as well as to promote modernization, a better quality of life, and a sustainable future for the Kuwaiti people. KFAS continues to achieve its mission through many of its centers, including the Scientific Center, Dasman Diabetes Center, and Sabah Al Ahmad Center for Giftedness and Creativity (SACGC). Zain has had many successful and fruitful partnerships with these centers.

AT&T Forms Cybersecurity JV

AT&T agreed to create a standalone cybersecurity services business with a capital investment company, as the US-based operator looks to provide embedded protection for SMEs. The operator teamed up with WillJam Ventures, which AT&T stated has cybersecurity industry and leadership experience. AT&T stated the JV will comprise "select security software solutions, associated managed security operations and security consulting resources". It expects to close the transaction in Q1 2024. AT&T is in the process of building more security capabilities into its core network and edge locations. "These security services will be

built-in to our connectivity products, which will create a new category of network-embedded security" for SMEs, it stated. AT&T stated it is "currently undergoing controlled introductions" with the new creations. Rick Welday, head of AT&T Enterprise Markets, stated its focus was "on unlocking the power of our best-in-class connectivity with embedded security features that will allow our network to intelligentlyprotectcustomersend-to-end". The arrangement appears to be similar to Gigapower, a JV AT&T struck with private equity company BlackRock Alternatives in 2022.

AT&T Ranks #1 In Customer Satisfaction from J.D. Power

For the third consecutive year, AT&T ranks number one in customer satisfaction for business wireless service delivered to large enterprise customers, announced today in the J.D. Power 2023 U.S. Business Wireless Satisfaction Study. This distinction complements our July 2023 ranking with J.D. Power as #1 for customer satisfaction for large enterprise business wireline service. Businesses today are mobile-first and looking for reliable, secure wireless connectivity delivered and supported by experts who understand the needs of their business operations. Connectivity enables businesses to work more efficiently and create new opportunities for not only staff, but also for potential and existing customers – whether fiber or 5G, our wireless and wireline networks power business productivity and innovations. When it comes to performance, security, scalability, simplicity and value, AT&T delivers. AT&T has a long history of successfully working with some of the largest multinational corporations to identify new and effective ways to manage their connectivity needs. As technology continues to evolve and adapt to new ways of shaping business operations, AT&T remains at the forefront of developing the way technologies such as machine learning (ML) and artificial intelligence (AI) are used to help businesses thrive. "Continuing to be recognized for providing top-ranked business wireless service to large enterprises is industry acknowledgement of our commitment to being the best at serving the wireless needs of businesses and organizations around the world," said Rick Welday, executive vice president and general manager, Enterprise Markets, AT&T. "We are proud to once again receive this honor from J.D. Power and look forward to providing excellent wireless and wireline connectivity for even more businesses in the years ahead."

China Mobile International

CMI Middle East and Pak Datacom Limited Announce Partnership at GITEX Global 2023

In a groundbreaking announcement at GITEX Global 2023, CM International Middle East FZ-LLC (CMI Middle East) and Pak Datacom Limited (PDL) unveiled the partnership, marked by the signing of a Memorandum of Understanding (MoU). This collaboration signifies the commitment of both entities to elevate their offerings in the rapidly advancing world of telecommunications. The partnership encompasses enhanced cooperation between both parties in a range of fields, including connectivity services, network devices and services, and VSAT services. Both CMI Middle East and PDL recognize the immense potential that a unified approach can bring to the region, and this collaboration is designed to optimize the services provided to their customer base. Commenting on the partnership, Alex Lee, Managing Director of China Mobile International Middle East Company stated, "The partnership with PDL is a strategic move for CMI Middle East as we look to expand and improve our services in the Middle East. By integrating our strengths and reach with those of PDL, we are confident that our combined expertise will bring unparalleled benefits to our clients." Syed Zulfiqar Ali, Managing Director of Pak Datacom remarked, "Joining hands with an industry pioneer like CMI Middle East reaffirms PDL's commitment to delivering top-tier services. This collaboration will not only enhance our capabilities but will also ensure that our customers receive

the most advanced and reliable solutions." CMI Middle East strives to create a partner ecosystem with regional and global carrier partners and empower local operators to provide convenient services and solutions based on China Mobile's leading 5G solutions. CMI's carrier services, iConnect, offers comprehensive professional services including Voice, SMS, Mobile, Data and Professional Services to global operators. The announcement at GITEX Global 2023, one of the most prestigious tech events in the world, underscores the significance of this partnership. As both companies move forward, they will be looking to leverage their combined strengths to achieve new milestones and set new benchmarks in the industry.

China Mobile and Huawei Scoop Two Awards at the 5G World Summit

At the 5G World summit hosted by Informa Tech, China Mobile and Huawei scooped two Network X awards for their jointly presented solutions — Outstanding CORE Network Product or Solution for the 5G Core solution and Most Innovative 5G Communication Service for 5G New Calling. One of the telco industry's most prestigious events, Network X brings together over 5,000 participants from around the world each year and consists of three key parts: 5G World, Broadband World Forum (BBWF), and Telco Cloud. Awards are presented to recognize achievements, innovation, and excellence across the sector. The Outstanding CORE Network Product or Solution and Most Innovative 5G Communication Service awards show the industry's full recognition of China Mobile and Huawei's shared success in standards development, technology innovation, business practices, and industry promotion for 5G core networks and New Calling. Li Huidi, Executive Vice President of China Mobile, accepted both the awards. "It's a huge honor that China Mobile's contributions to the 5G core networks and New Calling have been fully recognized," he said. "This also injects new momentum into our tech and service innovation fields. As it has always done, China Mobile will follow industry trends, lead technological innovation, enable networks with intelligence, and strive for a new future of the digital economy." Yang Chaobin, Director of Huawei and President of ICT Products & Solutions, accepted both the awards on behalf of Huawei. He noted that, "Moving forward, Huawei will continue to join hands with China Mobile and other world-leading operators to build intelligent 5.5G core networks, so as to enable more immersive and interactive communications, widen their application in more industries, and create a better-connected world."

Cisco Showcases New Product Innovations Centered Around AI, Security and Observability at the 28th Annual Cisco Partner Summit

Cisco Partner Summit 2023 begins bringing together thousands of Cisco partners from around the world to network, learn and celebrate their shared successes with Cisco. Around 90 percent of Cisco's revenue flows through Cisco's partners, represented by tens of thousands of organizations from more than 150 countries. Massive technological shifts are happening across AI, 5G, cloud, security, and applications, which are re-shaping almost every industry across the world. Now more than ever before, businesses are leveraging technology to transform their business and drive outcomes and experiences for their customers. Through the power of its platforms, Cisco is enabling greater simplicity, flexibility and choice for our customers and partners to accelerate their digital transformation. Together with our partners, we are committed to leading in AI, security, observability and sustainability, key drivers of our innovation and joint profitability, all underpinned by our commitment to securely connect everything to make anything possible. "We are thrilled to host Partner Summit 2023, where our global partner ecosystem will come together to discuss how Cisco and its partners can collectively help customers achieve their business goals," said Jeff Sharritts, EVP and Chief Customer and Partner Officer, Cisco. "This event serves as a platform to foster collaboration, share insights, and strengthen the bonds between Cisco and our valued partners. Through our collective expertise and resources, we can drive innovations that shape the future of digital transformation and create even greater value for organizations across industries and geographies." Effective utilization of AI has emerged as a top priority for organizations around the world. At the same time, unfamiliar application stacks and infrastructure patterns create challenges for IT teams being asked to support these initiatives. To offer partners the simplest and most scalable solutions to help customers get their infrastructure AI-ready, Cisco has collaborated with leading ecosystem partners — including NVIDIA, Intel, AMD, NetApp, Nutanix, Pure Storage and Red Hat — on Cisco Validated Designs (CVDs) for AI use cases. These solutions build on the success of proven capabilities and existing IT processes, helping to accelerate customers' journey to AI without adding unnecessary risk or new silos of operations. Cisco development partners are seeing significant business value in the Cisco Observability Platform and are actively building modules around five critical themes: Business Insights, SAP, Networking, MLOps and Sustainability. This new vendor-agnostic observability ecosystem helps customers fulfill their specific observability needs, facilitating an environment where they can get value from observable telemetry.

Cisco, Verizon Achieve 1Tbps Speeds Over Long Island Fiber Network

Verizon, along with vendor Cisco, has achieved transmission speeds of 1.2Tbps over its metro fiber network in Long Island, New York. A 1Tbps single-wavelength of data was transmitted over the Cisco NCS 2000 line system over a distance of 205km, traversing 14 fiber central offices. 800Gbps transmission speeds were achieved over 305km (via 20 offices), while the 1.2Tbps wavelength traversed three offices. Verizon notes that it has deployed nearly 57,000 route miles of fiber since 2020, and says it now connects over 51% of its cell sites with its own fiber.

Webex by Cisco Announces AI-Powered Solutions to Empower Contact Center Agent Potential and Reduce Burnout

Stress and burnout are common in the workplace, and even more so within contact center employees. In fact, a study found agent turnover is twice that of any other profession and that burnout causes 50% of agent turnover within contact centers. This costs businesses with 100 agents $4.8M each year on average. To combat this, Webex by Cisco (NASDAQ: CSCO), a leading provider of collaboration and contact center technologies powering hybrid work and customer experience, today announced new AI-powered capabilities in Webex Contact Center. These new capabilities aim to help improve agent well-being and productivity, resulting in exceptional customer experiences.

"At Webex, we are embracing agent wellness as a core value to contribute to a more compassionate, inclusive and progressive business culture," said Jeetu Patel, Executive Vice President and General Manager, Security and Collaboration, Cisco. "Our commitment to nurturing the well-being of agents means that businesses can build a foundation for growth, empower innovation and provide exceptional experiences to their customers."

Purpose-Built AI in Webex Contact Center Helps Agents and Customers

For over two decades, Webex has provided contact center solutions that power the customer service function of some of the world's largest customer-centric brands. Within Webex Contact Center, new AI-powered capabilities that aim to improve agent well-being and productivity, while simultaneously improving customer experiences, will include:

AI-powered agent burnout detection allows businesses to proactively address agent well-being by enabling automated breaks, such as a Thrive Reset, and real-time coaching after challenging customer interactions.

Suggested responses uses generative AI to automatically suggest responses to increase agent productivity when responding to customer inquiries on digital channels.

Conversation summaries and wrap-ups provide agents with a clear summarization of issues and resolutions already explored via self-service and a summary of the call or chat to both the agent and customer once it ends. Agent wrap ups automatically generate wrap up codes and actions following every customer interaction, eliminating an average of five minutes for the agent.

Coaching highlights generates a dashboard for supervisors showing highest and lowest customer-rated interactions. It then automatically summarizes the interactions with the best ratings and provides supervisors with coaching tips based on those findings to train fellow employees. Conversely, highlights from the lowest-rated interactions are captured to then coach lower-performing agents to foster improvement across the board.

Introducing Webex Customer Experience Essentials

Great customer experiences are essential for businesses of all sizes. As employees beyond the contact center become increasingly critical to resolve customer needs, organizations are challenged with how to connect these answer-holding employees to the customer experience journey. Also critical is ensuring every interaction is exceptional and personalized. To help solve this, Webex is introducing Webex Customer Experience Essentials to help employees throughout the organization deliver the best possible customer experience. Webex Customer Experience Essentials brings the core fundamental capabilities of the Webex Contact Center to Webex Calling users, enabling:

- Employees outside the contact center to become specialized agents, leading to faster issue resolution and improved customer satisfaction (removing the potential need for a call back)
- A better understanding of customer issues that need escalation outside of the contact center
- A streamlined contextual engagement from back-office employees during issue escalation
- Webex Customer Experience Essentials is designed specifically for customer service-oriented industries and is available for purchase for Webex Calling users.
- Integrating Thrive Reset to Empower Contact Center Agents and Reduce Burnout

Webex is expanding its partnership with Thrive Global, the behavior-change technology company founded by Arianna Huffington, to bring Thrive Reset into the agent flow of work, reducing agent attrition and enabling greater agent productivity with Thrive Reset for Webex Contact Center. "We're excited to continue our longstanding partnership with Webex by Cisco to help combat agent burnout," said Arianna Huffington, Thrive Global Founder and CEO. "Contact center agents are on the front lines of the customer experience. And by integrating with Webex we're embedding well-being directly into the agent workflow, meeting them where they are to boost their health, well-being and productivity while also creating better and more empathetic customer experiences." Thrive Reset allows agents to break the cycle of cumulative stress and move from the sympathetic to the parasympathetic nervous system, reducing the rush of cortisol through the body. Thrive's library consists of hundreds of 60-second Reset videos— stretching, breathing, mindfulness and gratitude breaks along with calming visuals, awe-inspiring natural landscapes and the latest stress-relief techniques—each with a guided breathing bubble that helps users

inhale, exhale and bring themselves back to center before their next customer interaction. Thrive Global's partnership with Universal Music Group to license Universal music for Thrive Reset makes them even more engaging, personalized and effective. Webex and Thrive Global will use insights from real-time AI technology built by Webex to offer agents an opportunity to reflect, recharge and break the cycle of cumulative stress. Once Webex's AI-based agent burnout analysis detects situations that lead to burnout, the agent is automatically set up for a break and served a 60-second Thrive Reset video to help them reset and relax before their next call. As a result, the next customer in line is handled by an agent who is recharged and better prepared to deliver great service, instead of one coming directly from a stressful experience.

For one financial services customer, a 60-day trial of Webex's AI-based burnout analysis coupled with timely Thrive Reset breaks for agents saw strong results. This included 4x improvement in time spent handling customer inquiries and improved customer satisfaction scores from 4.8 to 4.9 (on a 1-5 scale). Learn more about bringing Thrive Reset for Webex Contact Center – which will be available in the first half of 2024 – to your team here.

Availability

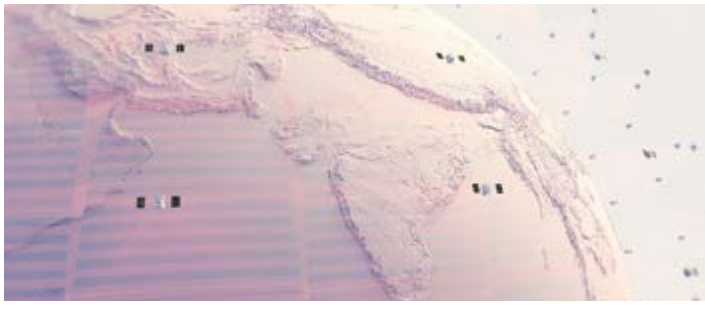
The new Webex Contact Center capabilities are not yet generally available but are in various stages of development. Suggested replies is planned to be in beta by the end of 2023, agent burnout detection APIs is planned to be in beta in February 2024. The Webex Customer Experience Essentials package is planned to be generally available in the first half of 2024.

Cisco's Approach to Responsible AI

Cisco has leveraged AI with natural language, audio intelligence, video intelligence and analytics for years—all designed with attention to security, privacy and human rights built in from the start. Realizing AI's significant promise while adhering to standards for transparency, fairness, accountability, privacy, security and reliability is part of our ongoing mission at Cisco. This is the promise of Cisco's Responsible AI Framework, which applies to our AI offerings. The Webex Contact Center capabilities are secure and will align with Cisco's Responsible AI Framework.

Indian Space Authority Clears Eutelsat OneWeb for Ignition

Eutelsat Group, the company created by a merger of Eutelsat and OneWeb, asserted its local unit was the first in India to receive approval from the nation's space activities regulator for a satellite broadband service, with a commercial launch expected as soon as it receives the necessary spectrum. In a statement issued under the Eutelsat OneWeb moniker, the company explained subsidiary OneWeb India had been given the all clear by the Indian National Space Promotion and Authorization Centre (IN-SPACe), having already been granted a license from the Department of Telecommunications. IN-SPACe is the Indian government agency charged with authorizing and supervising space activities of companies. Its remit includes the launch of birds, infrastructure sharing and provision of services from satellites. Eutelsat OneWeb highlighted its LEO constellation was already in place and it had approval in principal to establish and operate gateways in Gujarat and Tamil Nadu. These, it noted, would "secure the provision of vital high-speed, low-latency internet connectivity to customers across India". Sunil Bharti Mittal, Bharti Group chair and co-chair of Eutelsat Group, said the move was a "critical step forward to meet India's ambition of providing internet connectivity for all", adding "Eutelsat OneWeb is ready to deploy as soon as it receives the final spectrum authorization to launch commercial services". It is the latest bullish comment outlining the potential of satellite connectivity in India, where a number of major players including Space X's Starlink, Amazon and Reliance Jio are tussling for position. Eutelsat Group was established after the French company and OneWeb completed a move to combine their operations in September.



Chunghwa Telecom Selects Eutelsat OneWeb for Low Earth Orbit (LEO) Satellite Services

Chunghwa Telecom, the largest integrated telecommunication service provider in Taiwan, has signed an exclusive multi-million-dollar distribution partner agreement for Low Earth Orbit (LEO) satellite services with Eutelsat OneWeb, ushering in a new era of satellite connectivity in Taiwan. Eutelsat OneWeb's LEO satellite network will enable Chunghwa Telecom to bolster their expansive suite of communication services with additional space-based connectivity. The integration of Eutelsat OneWeb services to Chunghwa's solution set will offer greater resiliency as well as complementing terrestrial fixed and mobile networks, submarine cables and microwave communication services, which they provide for government and business customers. Alex Chien,

Executive Vice President of Chunghwa Telecom, led a delegation to the London offices of Eutelsat OneWeb, which is part of Eutelsat Group - the world's first GEO-LEO satellite operator - to sign the agreement. He commented: "Eutelsat OneWeb is a leading provider of LEO satellite services and Chunghwa Telecom is excited to have the opportunity to collaborate with the Eutelsat OneWeb team to introduce LEO satellite services into the country. Taiwan is an island and relies heavily on submarine cables for external connectivity, with satellites serving as a secondary option. Therefore, satellite services are essential communication tools for the Taiwanese government and businesses. By integrating Eutelsat OneWeb's LEO satellite service with our Geostationary Orbit (GEO) satellite service, Chunghwa Telecom takes the first step towards establishing a multi orbit satellite service portfolio." "We are thrilled by the opportunity to partner with Chunghwa Telecom and the ability it gives us to extend our mission of bringing high-speed, low-latency connectivity to people around the world," said Stephen Beynon, co-General Manager of Eutelsat OneWeb.

"Eutelsat OneWeb strives to enable our partner's growth and this agreement is a testament to the success of our approach and the continued demand for our services. Chunghwa Telecom has long been a premier provider in the region and we look forward to working together to deliver robust, resilient connectivity services." Eutelsat OneWeb's LEO satellite constellation comprises more than 600 satellites and due to their proximity to Earth, they are able to deliver fast, low-latency communication services, meeting the demand for high-quality network connectivity and achieving resilience through network redundancy. Chunghwa Telecom plans to continue actively collaborating with international and domestic industry partners, including participating in key satellite business developments. Additionally, Chunghwa Telecom plans to establish a satellite service terminal testing center in Taiwan with Eutelsat OneWeb, aiming to provide technical expertise and integrate domestic and international satellite service resources. Chunghwa Telecom will collaborate with government satellite research institutions, academic units, and satellite industry vendors to collectively promote the development of the domestic satellite industry.

Huawei unveils joint fellowship with ITU, makes strides in digital inclusion

Huawei announced it has already brought connectivity to 90 million people in remote regions in nearly 80 countries following its pledge to the International Telecommunication Union's (ITU) Partner2Connect (P2C) Digital Coalition. The announcement was made as part of Huawei's first progress report since it joined the Coalition last year. Dr. Liang Hua, Chairman of the Board of Huawei, made the announcement at the company's 2023 Sustainability Forum, which is themed "Thriving Together with Tech: Realizing Sustainable Development." The event also brought together Doreen Bogdan-Martin, the Secretary-General of ITU; Jeffrey Sachs, President of the UN Sustainable Development Solutions Network and

Dr. Liang Hua, Huawei Chairman, addressing the audience at the Sustainability Forum

Commissioner of the UN Broadband Commission for Development; as well as representatives from telecommunications ministries and regulators, including some from Pakistan and Ghana. Attendees explored how digital infrastructure can better drive sustainable development and help build a greener and more inclusive intelligent world. "Next-generation digital infrastructure, like connectivity and computing power, are as vital to driving socio-economic development as our physical infrastructure, just like roads. This new infrastructure will be crucial to sustainable development for all of society," Dr. Liang said. "Computing is a core driver of productivity in the digital economy. Faster rollout of computing infrastructure will help speed up digital transition in many industries, and promote deeper integration of the digital and real economies. This can further promote global economic stability and sustainable development." Further adding to Dr. Liang's comment, Doreen Bogdan-Martin, the Secretary-General of ITU, said: "Let's not choose between tech and sustainable development. We need both! Let's thrive together with tech. Let's build a digital future that advances progress for people and planet." Huawei firmly believes digital talent is key to future technological innovation. To foster more widespread digital engagement and develop future leaders, the company has deepened its partnership with ITU by launching a fellowship called "ITU Generation Connect Young Leadership Programme in Partnership with Huawei".

Doreen Bogdan-Martin the Secretary-General of ITU gave a keynote speech

The fellowship will be open for applications early next year, and will last three years. Each year, 30 young visionaries (aged 18-28) from around the world will receive support in their projects to use digital technology to drive community development. Jeff Wang, President of Huawei's Public Affairs and Communications Department, noted: "Huawei is proud to partner with ITU for this important cause, and to see young visionaries making a tangible impact for digital inclusion all across the world. The support that participants will receive includes financial contributions to their projects, mentoring from ITU and Huawei experts, and opportunities to participate in joint events." "Through ITU and Huawei's joint efforts, young people will learn, contribute and lead in the digital world," said Dr Cosmas Luckyson Zavazava, Director of ITU's Telecommunication Development Bureau. "Digital is a prerequisite for accelerating the achievement of the SDGs. We want youth to push the envelope on the evolving global digital ecosystem and make their transformative contributions. I thank Huawei for this great partnership, and I look forward to seeing the global impact of this innovative project." The P2C Coalition, launched by ITU, fosters meaningful connectivity and digital transformation globally, prioritizing remote communities in countries and regions that lack digital access. Huawei signed the global commitment last year, setting goals to bring connectivity to about 120 million people in remote areas in more than 80 countries by 2025. So far, Huawei has provided 2,066 training opportunities in the ITU's first P2C partner country Cambodia, in collaboration with local ministries and universities.

Huawei Launches The 5.5G Intelligent Core Network Solution to Empower More New Business

At the 5G Core Summit hosted by Informa Tech, George Gao, President of Huawei Cloud Core Network Product Line, launched the 5.5G Intelligent Core Network solution. The solution is equipped with native intelligence, making it powerful enough to implement service intelligence, network intelligence, and O&M intelligence, so as to empower more new business, and light up an intelligent world. Gao noted that future mobile networks should be deterministic and deliver several key features including 10 Gbps downlink, 1 Gbps uplink, up to 100 billion IoT connections, harmonized communication and sensing, and native intelligence. Huawei's 5.5G Intelligent Core Network solution applies intelligence as well as intent-driven technologies and network foundation models to the core network, helping operators build service, network, and O&M intelligence to achieve business success. Service Intelligence, Expanding the Profitability of Calling Services By incorporating ultra-HD, interactive, and intelligent capabilities into calls, New Calling-Advanced upgrades traditional single-modal communication

to multi-modal communication, enabling operators' content-based operations, and creating greater value around calling, Gao said. Network Intelligence, Achieving Closed-Loop Experience Management For network intelligence, Gao said that Huawei has built an intelligent network plane centered on the NWDAF. The intelligent plane can collect and store comprehensive data for NFs, such as service logs and KPIs, and centrally perform model training, inference, and prediction. Huawei also launched the intelligent UDG product, which can implement intelligent traffic shaping and differentiated frame-level scheduling, to ensure optimal transmission efficiency and experience. With the intelligence plane, plus the natively intelligent NFs, encrypted services can be distinguished, service experiences can be evaluated in real time, and the related operations can be completed in a closed loop. All of this ensures a differentiated user experience in the 5.5G era. O&M Intelligence, Realizing High Network Stability and Efficiency The 5.5G Core introduces the digital assistant and digital expert capabilities. The former can improve O&M efficiency for frequently occurring problems, and the latter uses foundation models and professional small models for joint analysis, to quickly locate complex core network faults and ensure a highly stable network.

Huawei Cloud Presence at the Global Media Congress 2023 Redefining Media & Entertainment Productivity

Huawei Cloud made a remarkable presence at the Global Media Congress 2023, a top media industry international gathering platform hosted in Abu Dhabi. With the media industry accelerated change, and the need of media to adapt into new approaches and business models, the Global Media Congress 2023 provides an ideal opportunity for media organizations and businesses to meet with thought leaders from around the globe to learn about the latest trends, share knowledge and experiences, and collaborate on news ideas related to the advanced technologies, solutions, products, services aimed at thriving the future of the media industry. As Cloud Sponsor of the Global Media Congress 2023, Huawei Cloud presence at the event provided a comprehensive view redefining the media and entertainment sector productivity with new experiences, capabilities and operational efficiencies to drive the evolution of the media industry. The company demonstrated its commitment to the "Everything as a Service" philosophy, and the exhibition area did not only highlight Huawei Cloud's achievements but also underscores its role in revolutionizing the media and entertainment industry, facilitating efficient content production, enabling ultra-low latency live streaming for OTT platforms, and empowering businesses with continuous innovation through the MetaStudio Digital Production Line. Moreover, the exhibition display area showcases Huawei Cloud's expertise in various horizontal solutions, including cloud-native technologies, database services, and AI-driven innovations. Visitors will have the opportunity to explore how Huawei Cloud's cutting-edge solutions are shaping the digital landscape and driving businesses towards a more connected and intelligent future. During the Huawei Cloud Media and Entertainment Forum, Huawei Cloud introduced its innovative E³ Model, which addresses the demands of the media and entertainment industry in three key areas: content production, content distribution, and business innovation. The E³ Model, which stands for "New Efficiency, New Experience, New Evolution", promises to usher in a new era of productivity enhancement, improved user experiences, and business growth for the media and entertainment industry.

Unlock New Growth for Media & Entertainment Industry

Roy Luo, Vice President of Cloud Consulting Solution Sales at Huawei Cloud Middle East & Central Asia, delivered an opening speech. He highlighted, "Innovation has always been the core of Huawei Cloud, and we are committed to provide systematic innovation for your digital journey. Wherever your business goes, our cloud goes." Roy also emphasized Huawei Cloud's key pillars for success: "Technical innovation", keeping solutions cutting-edge; "Industry leadership", setting standards and best practices, and "Market leadership", thriving in a dynamic cloud market. Huawei Cloud is dedicated to delivering value and transforming industries.

Inspire New Growth with Partners and Customers

Local enterprise representatives also shared about their development and Huawei Cloud's cooperation prospects. Eva Wu, XRender Global Business Development Executive, unveiled the partnership's latest strides in enhancing 3D rendering capabilities on Huawei Cloud. She highlighted XRender's ongoing collaboration with Huawei, emphasizing the global reach of their cooperation. Eva also discussed the pain points faced by the

traditional rendering industry, focusing on cost, operations, and management, and explained how the joint XRender-Huawei Cloud rendering solution significantly improves rendering efficiency while reducing costs. This presentation underscores the commitment to revolutionizing the 3D rendering industry, providing customers with cost-effective and efficient solutions. Kevin Zhang, Solution Expert at Huawei Cloud Middle East & Central Asia, and Eyad Marei, Solution Expert at Huawei Cloud Middle East & Central Asia, has also spot light on Huawei platforms that accelerates content production efficiency, making virtual humans accessible for content creators, and presented new solutions for the OTT industry that ensures exceptional content quality and user experiences. Jerome Goubier, Head of Sales at Vianeos, shared invaluable insights into the world of OTT and monetization. During his presentation, Jerome shed light on the dynamic landscape of OTT and its potential for monetization. He introduced two remarkable solutions by Vianeos: OctoAds, Ads insertion solution for OTT, and OctoReco, cutting-edge recommendation engine. These tools were showcased as pivotal in delivering optimized content experiences to viewers. In collaboration with Huawei Cloud, Jerome outlined the vision for achieving data-driven personalized viewing experiences. This partnership empowers OTT providers to enhance viewer engagement and maximize revenues by harnessing the power of

data analytics. Huawei Cloud's prominent presence at the Global Media Congress 2023 in Abu Dhabi has marked a pivotal moment in the evolution of the media and entertainment industry. The introduction of the E³ Model, along with an array of cutting-edge solutions, highlights our unwavering commitment to redefining productivity and delivering premium user experiences.

Huawei Enters Leaders Quadrant According to GlobalData's Revenue Management: Competitive Landscape Assessment

GlobalData, an industry analyst firm, released its Revenue Management: Competitive Landscape Assessment. The report says that Huawei's next-generation intelligent cloud-native convergent billing system, CBS R23, is positioned as a Leader in competitiveness evaluation. GlobalData's report ranks the competitiveness of top vendors in the global revenue management field from multiple dimensions, including service and support capabilities, product portfolio, delivery model, customer success and stability and overall evaluation. The report also evaluates the overall strength and aims to serve as a market guide for carriers. Huawei's Leader position indicates that Huawei's CBS R23 has been recognized by authoritative analyst organizations and has entered the preferred view of carriers' decision-makers through recommendation by third-party organizations.

GlobalData has gained insight into the following key challenges and requirements in the revenue management field:

How to accurately locate target customers, provide personalized offer recommendations and customized products based on big data to help carriers improve customer experience?

Nowadays new technologies are emerging one after another. How can we use the latest cloud-native technologies and AI to help carriers further reduce costs and improve efficiency?

Carriers are generally worried about the slow return on investment (ROI) of 5G. How do they accelerate the monetization of new 5G services?

The following Huawei CBS R23 key capabilities and features help carriers meet the preceding key requirements and challenges:

The CBS R23 solution introduces the AI platform to support intelligent offer auto configuration and shorten the TTM of new packages from months to days. The solution can create a user persona based on big data analysis, support smart offer recommendations, provide personalized services and experiences for customers, improve user loyalty, and increase carriers' revenue. The CBS R23 solution supports intelligent O&M, accurate fault location, and automatic fault recovery, reducing manual intervention, and improving maintenance efficiency.

The CBS R23 solution builds a full convergent platform from four dimensions: Individual/Family/Enterprise, Internet of People/Things, Charging/Billing/Settlement, and Mobile/Fix/Broadband/Cloud/New service. The solution reduces TCO by 30% for carriers, provides simplified package subscription, management, and convergent One Bill experience for customers, and helps carriers expand new 2B services.

The CBS R23 solution has built a cloud-native foundation, which supports gray release and zero interruption in software version upgrades. N-LIVE (a multi-active sides DR solution), automatic switchover within seconds upon site faults, building 99.9999% high reliability.

Huawei's CBS R23 solution focuses on open platform construction and partner-oriented services, aims to build a partner-friendly platform. Currently, Huawei CBS provides more than 300 open APIs, helping enable more third-party 5G partners' development. As a Leader in the revenue management market, Huawei CBS had connected 2.3 billion subscribers and 600 million IoT users for 200+ CSPs in 110+ countries by the end of 2022. Since 2021, Huawei has signed more than 20+ new 5G SA CBS contracts, and its innovative SaaS business model has been launched successfully in Europe.

China Unicom and Huawei Help Exquisite Automotive Deploy a Commercial 5G-Advanced Flexible Production Line

China Unicom and Huawei began to help the Baoding Automation Technology Branch of Exquisite Automotive Systems Co., Ltd. ("EA") deploy a commercial 5G-Advanced flexible production line that features ultra-high reliability and ultra-low latency. At Great Wall Motor's factory in Baoding, Hebei, 5G-Advanced equipment is being used in the car roof production line. Traditional industrial control relies on wired networks to realize the serial connection and control of terminal equipment. However, after a certain period of operations, wire abrasion in mobile application scenarios, such as robot arms, slide units, and swiveling tables, often results in production interruptions, causing an average of about 60 hours of downtime a year. 5G-Advanced networks provide ultra-high reliability and ultra-low latency, making them the perfect choice for high-end core manufacturing processes that require high response speeds. Wireless industrial networks can completely eliminate the constraints of wires. Compared to wired networks, the 5G-Advanced solution facilitates easier network deployment and can better support flexible manufacturing. 5G-Advanced networks also boost efficiency by integrating multiple functions, such as data collection (IT) and industrial control (OT) functions that are provided by two separate private lines in wired networks. Located in Baoding, Hebei, EA is a subsidiary of Great Wall Motor Co., Ltd. (GWM), and has an annual turnover of more than CNY2 billion. EA is responsible for the development of intelligent equipment and the design and integration of automated production lines for GWM and other auto companies. At the press conference, Yuan Zhanjiang, Deputy General Manager of EA's Industry Intelligence Department, stated, "Digitalization is a must for the transformation and upgrade of manufacturing enterprises. 5G-Advanced features ultra-high reliability, low latency, and easy deployment. These features have been verified in EA's 5G-Advanced industrial Internet lab, and will soon start supporting our commercial production lines. We will seize the opportunity presented by enterprise transformation and upgrade, and leverage digital technologies to continually improve our smart manufacturing capabilities, and contribute to the transformation and upgrade of GWM and the wider manufacturing industry." Today, many countries view industrial digital transformation as a new driver of economic growth. Therefore, they are striving to make manufacturing increasingly digital, connected, and intelligent. Digital operation capabilities are now a must for manufacturing enterprises, and flexible smart manufacturing is continuously gaining traction. Fan Ji'an, Chief Big Data Scientist of China Unicom, pointed out that China Unicom is accelerating the construction of digital infrastructure and deepening integrated innovation in digital technologies. "We are working with all industry partners to build a 5G-powered industrial Internet that will help enterprises address pain points during their transformations, and ultimately facilitate upgrades to smart manufacturing," Fan said. "Powered by 5G-Advanced, industrial applications are moving from auxiliary production to core production systems. We are seeing more typical 5G-Advanced applications appear in key scenarios, further driving the manufacturing industry to go digital." China Unicom believes that 5G-Advanced applications can create greater value for enterprises. "We are willing to work with all sectors to create new momentum for innovation, and promote high-quality development by integrating the digital and real economies," Fan continued. Together, we want to begin a new chapter in China's modernization journey." The global industry is actively promoting the development of 5G-Advanced. During the Global Mobile Broadband Forum that concluded last month, 13 global operators, including China Unicom, jointly launched the first wave of 5G-Advanced networks, marking the transition of 5G-Advanced from technical verification to commercial deployment. 2024 will mark the first year of 5G-Advanced's commercial use.

Huawei Launches New AI Storage Product for The Era of Large Model at GITEX GLOBAL 2023

Huawei has launched a new AI storage model, the OceanStor A310, designed for the era of large AI models at GITEX GLOBAL 2023. The solution provides optimal storage capability for basic model training, industry model training, and inference in segmented scenario models, unleashing new AI capabilities. The launch demonstrates Huawei's alignment with the latest trends of AI development in the era of large models. The OceanStor A310 deep learning data lake storage caters to different industries and scenarios in large AI model applications. Peter Zhou, President of Data Storage Product Line, Huawei said, "With the OceanStor A310, we are bringing our customers and partners a cutting-edge AI storage solution to unleash new AI capabilities and create value for various industries. Visitors to our GITEX stand can witness how Huawei is committed to accelerating the intelligent era, leveraging a trusted, secure, and reliable OceanStor platform used by some of the leading businesses in the world." Enterprises face four significant challenges in the development and implementation of large model applications. First, data preparation takes a long time, with dispersed data sources and slow aggregation. Currently, preprocessing about a hundred terabytes of data takes around ten days. Secondly, for multi-modal large models using massive text and images as training sets, the current loading speed for a large number of small files is less than 100MB/s, resulting in low efficiency in loading training sets. Third, frequent tuning of large model parameters and instability in the training platform leads to training interruptions approximately every two days on average. The Checkpoint mechanism is needed to recover training, and the fault recovery process takes more than a day. Finally, the high threshold for large model implementation, complex system construction, difficult resource scheduling, and GPU resource utilization is usually below 40%. Huawei OceanStor A310's deep learning data lake storage caters to different industries and scenarios in large model applications. In the context of basic/industry large model scenarios, OceanStor A310 is a deep learning data lake storage solution that offers unlimited horizontal scalability and high performance for mixed workloads. It enables end-to-end massive data storage management for AI processes, including data collection, preprocessing, training, and inference. It possesses data analysis capabilities consistent with HPC and big data, allowing for the processing of data from similar sources. Huawei is a Gold Sponsor of GITEX GLOBAL 2023 and the lead sponsor for the event's cybersecurity program, Cyber Valley. Visit the Huawei booth in Hall 22, Dubai World Trade Center, at GITEX GLOBAL to experience the latest technology innovations and learn how the company is accelerating intelligence.

Huawei and Mindware Showcased Optical Network Innovations at ISP Summit 2023 in Iraq

Huawei, a leading provider of information and communications technology (ICT) infrastructure and smart devices, together with strategic partner Mindware, successfully hosted the ISP Summit 2023 in Baghdad, Iraq. The eventbrought together industry leaders to address the increasing demand for broadband services and explored opportunities to accelerate the deployment of all-optical Internet and next-generation networks. Under the theme of "F5G Evolution Unleashing Green Digital" the Summit served as a platform for industry leaders in the Internet Service Provider (ISP) sector to exchange information on all-optical networks trends and showcase leading technologies and solutions in the optical field aiming to create a smarter and more resilient Internet infrastructure. The event witnessed the participation of prominent players from executives to technical experts in the ISP industry. Philippe Jarre, President of Mindware Group, said, "We are excited to partner with Huawei to provide advanced solutions to ISPs, as Iraq enters an era of rapid growth. By bringing the industry together for the Summit, we were able to demonstrate how Huawei's optical solutions can accelerate Iraq's digital transformation while having the opportunity to meet with our key partners and address the challenges they face in their network transformation journeys." James Zhang, Managing Director of Huawei Iraq Enterprise Business Group, said, "We are

in an era of unprecedented growth where networks are struggling to manage the immense demand for services. Our optical solutions have the capability to overcome these challenges and help usher in the gigabit era. Our partnership with Mindware continues to deliver real value to Iraqi customers with differentiated customer service." Huawei showcased its optical innovations at the concurrent exhibition. These included the Huawei FTTR OptiXstar F30, the industry's first all-optical home network product based on the C-WAN architecture, which supports upstream transmission at 2000 Mbit/s. With six major upgrades in aesthetics, speed, rate, coverage, roaming, concurrency, and service, it provides ultra-gigabit Wi-Fi coverage and a high-quality digital home experience throughout the home. In the ultra-broadband access field, Huawei showcased the industry's first commercial 50G PON solution to meet the increasing bandwidth demands of campuses, industrial interconnection, enterprises, and homes. The solution achieves a 25% increase in the optical power budget and supports existing ODN deployment without re-cabling. Iraq is undergoing massive expansion in network coverage. In 2022, ITPC, a telecom company under the Ministry of Communications of Iraq, leased the rights to operate optical networks in 15 provinces to 16 ISPs, aiming to increase the coverage of domestic access networks to 80% within three years. The ISP Summit 2023 marked another milestone in the cooperation between Huawei and Mindware, showcasing their commitment to creating a smarter internet infrastructure and driving the digital transformation in Iraq.

Nokia Introduces 'Carrier-Grade' Wi-Fi 7 Portfolio

Nokia has introduced its "carrier-grade" portfolio of Wi-Fi 7 devices that are designed to enhance end-users' broadband experience. The new portfolio encompasses a wide array of devices, catering to both low- and high-end users. It includes dual-band, tri-band, and quad-band configurations, addressing diverse regulatory constraints and market demands. Nokia's Wi-Fi 7 offerings stand out due to their unique capabilities, with the Beacon 24 leading the pack. This device boasts an innovative antenna design and orientation—ensuring the best horizontal and vertical coverage for Wi-Fi devices across different floors, guaranteeing seamless connectivity throughout homes and businesses. What sets Nokia's Wi-Fi 7 devices apart is their support for multi-link operations (MLO) across four radio links. MLO enables devices to simultaneously send and receive data across different frequency bands and channels. This technology will deliver greater Wi-Fi connection speeds and cater to the increasing demand for high-speed, uninterrupted internet access. Justin Doucette, Head of Wi-Fi for Fixed Networks Broadband Devices at Nokia, said: "The world is moving to multi-gigabit with 25G fiber and 5G mmWave pushing the broadband speeds to the home to new heights. Wi-Fi 7 provides new capabilities that ensure these multi-gigabit broadband services can be achieved throughout the home. Powering these devices is Nokia's Corteca software, which works seamlessly from device applications, through homes, and into the cloud. This end-to-end approach maximizes Wi-Fi performance, providing advanced Wi-Fi and device management based on open industry standards (TR-369, EasyMesh). Corteca also offers a marketplace with applications – including third-party options – running on fiber (ONT) gateways, FWA gateways, and mesh Wi-Fi beacons. "The combination of our new Wi-Fi 7 devices and our Corteca software gives operators the tools they need to deliver an unsurpassed broadband experience," added Doucette. Michael Philpott, Research Director for Digital Consumer Services at Omdia, commented: "Wi-Fi 7 sets the stage for a faster, more connected future. However, any solution that is deployed should be compliant with the final Wi-Fi Alliance standard which will be critical to interoperability. The standard will ensure that Wi-Fi devices work seamlessly together, delivering the quality and connectivity we all depend on in the digital world." Nokia has confirmed that its new Wi-Fi 7 solutions will be fully certified and compliant with the standard expected to be finalized in early 2024. The complete set of Nokia Wi-Fi solutions will be available in the first half of 2024.

Nokia Demos Voice-Based Network Capabilities

Nokia Bell Labs showcased Natural-Language Networks, a proof-of-concept enabling networks to be operated through speech or text prompts, in what it claimed was a step towards autonomous capabilities. It stated Natural-Language Networks use verbal or text inputs to automatically allocate network resources, a feature Nokia said will make it easier to manage infrastructure and respond to changing requirements. "By leveraging AI, these networks will allow service providers to deliver and maintain the ideal network configuration for any customer the moment it is requested." The networks continuously learn from their actions to optimize set-ups based on each new request Nokia Bell Labs stated the networks would understand the intention of users "and have the intelligence to act upon them autonomously". Natural-Language Networking is a component of UNEXT, a Nokia Bell Labs research initiative which it explained would "redefine network software and systems the same way UNIX reshaped computing" by "evolving the network itself into an operating system". Csaba Vulkan, network systems automation research leader for Nokia Bell Labs, stated Natural-Language Networks would remove the need for operators to "explore technical catalogues or complex API descriptions when they configure networks".

Nokia Bell Labs Breaks Submarine Transmission Speed Record

Nokia announced it has set two new world records in submarine optical transmission, both of which will shape the next generation of optical networking equipment. The first sets a new optical speed record for transoceanic distances. Nokia Bell Labs researchers were able to demonstrate an 800-Gbps data rate at a distance of 7865 km using a single wavelength of light. That distance is two times greater than what current state-of-the-art equipment can transmit at the same capacity and is approximately the geographical distance between Seattle and Tokyo. Nokia Bell Labs achieved this milestone at its optical research testbed in Paris-Saclay, France. The second record was achieved by both Nokia Bell Labs and Nokia subsidiary Alcatel Submarine Networks (ASN), establishing a net throughput of 41 Tbps over 291 km via a C-band unrepeated transmission system. C-band unrepeated systems are commonly used to connect islands and offshore platforms to each other and the mainland proper. The previous record for these kinds of systems is 35 Tbps over the same distance. Nokia Bell Labs and ASN broke the record at ASN's research testbed facility, also in Paris-Saclay. Nokia Bell Labs and ASN presented the scientific findings behind both records on the 4th and 5th of October at the European Conference on Optical Communications (ECOC), held in Glasgow, Scotland. Nokia Bell Labs and Alcatel Submarine Networks were able to achieve both world records through the innovation of higher-baud-rate technologies. "Baud" measures the number of times per second that an optical laser switches on and off,

or "blinks". Higher baud rates mean higher data throughput and will allow future optical systems to transmit the same capacities per wavelength over far greater distances. In the case of transoceanic systems, these increased baud rates will double the distance at which we could transmit the same amount of capacity, allowing us to efficiently bridge cities on opposite sides of the Atlantic and Pacific oceans. In the case of C-band unrepeated systems, higher baud would allow service providers connecting islands or off-shore platforms to achieve higher capacities with fewer transceivers and without the addition of new frequency bands. The research behind these two records will have significant impact on the next generation of submarine optical transmission systems. While future deployments of submarine fiber will take advantage of new fiber technologies like multimode and multicore, the existing undersea fiber networks can take advantage of next-generation higher-baud-rate transceivers to boost their performance and increase their long-term viability. Sylvain Almonacil, Research Engineer at Nokia Bell Labs, said: "With these higher baud rates, we can directly link most of the world's continents with 800 Gbps of capacity over individual wavelengths. Previously, these distances were inconceivable for that capacity. Furthermore, we're not resting on our achievement. This world record is the next step toward next-generation Terabit-per-second submarine transmissions over individual wavelengths." Hans Bissessur, Unrepeated Systems Group leader at ASN, said: "These research advances show that that we can achieve better performance over the existing fiber infrastructure. Whether these optical systems are crisscrossing the world or linking the islands of an archipelago, we can extend their lifespans."

Nokia Bell Labs and Aramco Announce R&D Collaboration to Support Priority Industries

Nokia's research arm, Nokia Bell Labs and Aramco, the world's largest energy company, have signed a non-binding R&D collaboration agreement to support Industry 4.0/4IR digital use-case creation and proof of concept development for priority industrial sectors in the Kingdom of Saudi Arabia and beyond. Building on the vision of the recently launched Aramco Digital Company, this Memorandum of Understanding (MoU) is envisioned to accelerate digital transformation within the Kingdom, the Middle East, and North Africa (MENA) region and globally. The collaboration seeks to leverage cutting-edge research and technologies from both companies to advance digital use-cases for a diverse range of industries, including oil and gas, utilities, mining, manufacturing and logistics. The companies are expected to collaborate on research and development efforts, develop joint proof-of-concept solutions, and validate technologies in real-world deployments to expand enterprise industrial automation applications, thereby unlocking new potential for industrial operations. The collaboration will also aim to focus on fostering a comprehensive ecosystem for 5G and emerging technologies to integrate cutting-edge technologies that will help shape the future of industrial sectors. Nabil Nuaim, Sr. VP of Aramco Digital & Information Technology, said: "We are thrilled to collaborate with Nokia's award-winning research arm Nokia Bell Labs. This MoU signifies a major step towards digitalizing our industries and transforming our national talent capabilities. Together, we aim to foster a culture of innovation, pushing the boundaries of what's possible in our industrial sectors during this Industry 4.0 era." Thierry E. Klein, President of Bell Labs Solutions Research at Nokia, said: "This collaboration with Aramco reflects our commitment to driving innovation and jointly developing advanced industrial use cases with world-leading ecosystem partners. Together, we will accelerate the digital transformation of industries providing new technologies for a safer, more productive and more sustainable future. We look forward to co-creating ground-breaking solutions that can unlock new business opportunities for industrial operations in Saudi Arabia and globally."

Nokia Partners with Mavenir to Prove Open RAN System Performance

Nokia announced that they have successfully completed interoperability testing with a Mavenir radio using the O-RAN Alliance 7-2x interface at Nokia's Open RAN Innovation Center in Dallas, Texas. During the trial, both companies validated the interoperability of Mavenir's CBRS Radio Unit and Nokia AirScale Baseband supporting the O-RAN compliant 7-2x interface. The testing was performed according to O-RAN Alliance specifications, demonstrating end-to-end configurations with 5G user devices. Nokia and Mavenir are able to demonstrate 5G peak performance by activating 4CC Carrier Aggregation using TDD and FDD spectrum in a 5G Standalone configuration. Nokia's anyRAN approach is designed to give mobile operators and enterprises more flexibility in building networks that combine purpose-built, hybrid, and Cloud RAN architectures with common software. Nokia is supporting Open Fronthaul features on top of its high-performance RAN software which ensures mobile operators have performance parity with their existing RAN. Nokia and Mavenir are long-term supporters of open networks and have invested heavily to advance the goals of the O-RAN Alliance to build open, interoperable, and intelligent networks. This industry milestone highlights both parties' ongoing commitment to open interfaces as well as their investment in R&D in the U.S. market. John Baker, SVP, Business Development at Mavenir, commented: "This solution demonstrates a full circle of O-RAN interoperability whereby our industry-leading RAN portfolio integrates and interoperates in both directions with products from other RAN suppliers. This is real Open RAN – not the version where one supplier only connects their own products to each other. It is a great credit to both teams that they could integrate our Radio with Nokia's Baseband in record time." Mark Atkinson, Head of RAN at Nokia, said: "Our technology collaboration with Mavenir is further evidence of our commitment to Open RAN. We have developed our baseband software in a way that ensures that multi-supplier O-RAN systems can be deployed without compromises in performance, energy efficiency, security, or resiliency. This is key when people depend on wireless connectivity in all aspects of their daily lives. We have now completed operability with Radios from four different suppliers using the O-RAN compliant 7-2x interface."

Nokia Technology Strategy 2030: Emerging Technology Trends and Their Impact on Networks

Nokia presented its Technology Strategy 2030 that identifies trends and emerging technologies that will shape technology, networks and the world for the next seven years. According to its new Global Network Traffic 2030 report, network traffic is growing and will rise dramatically over this decade. Driving this growth are recent trends such as artificial intelligence (AI), machine learning (ML), extended reality (XR), digital twins, automation, and billions of devices. To capitalize on the exponential potential of these technologies to solve tomorrow's greatest challenges, networks will need to adapt and transform. Delivering lasting, accessible, sustainable innovation hinges on reliable, secure, cognitive networks. Nishant Batra, Chief Strategy and Technology Officer, Nokia, said: "Nokia's Technology Strategy 2030 is a direct response to the proliferation of cutting-edge technologies over the last decade. One thing is for certain: radical changes are needed now to evolve networks to meet the challenges of tomorrow and beyond. Enterprises across industry face three trends bearing down on them: AI, cloud and the constant evolution of connectivity. Our Technology Strategy 2030 lays out a future network architecture for our customers and the industry. It brings to life opportunities for innovation, sustainability, productivity and collaboration, which can only be enabled by the exponential power of networks." Nokia's Technology Strategy 2030 identifies the trends and emerging technologies that will impact the networks of service providers, enterprises and industries over this decade, and how Nokia will help networks evolve. The key trends influencing Nokia's Technology Strategy 2030 are AI, cloud continuum, metaverse, API economy, Industry 5.0, Internet of value, sustainability, and security. These trends will all rely on ultra-responsive and secure networks at their core. In the Global Network Traffic 2030 report, Nokia projects that end-user data traffic demand will increase at a compounded annual growth rate (CAGR) of 22% to 25% from 2022 through 2030. Global network traffic demand is expected to reach between 2,443 to 3,109 exabytes (EB) per month in 2030. If there is a higher adoption rate of cloud gaming and XR in the second half of this decade, Nokia projects a CAGR that reaches as high as 32%. For networks to support the increasing demands of the future, they will need to be more cognitive and automated utilizing AI and ML, as well as address the transformative needs and operating models of organizations and consumers. Technology breakthroughs like XR and digital twins, combined with Web3 and other much-lauded emerging innovations, will transform businesses, society and the world. Jerry Caron, Global Head of Research & Analysis, GlobalData Technology, said: "By 2030 the pace of technological advancements we are currently seeing will significantly increase traffic on networks. Nokia's Technology Strategy 2030, with its emphasis on effective use of AI, cloud, connectivity, and API economy, is the type of framework that service providers and enterprises will need to embrace. The service provider industry will need to transform itself from the traditional, vertically integrated structure to a more horizontal, API-driven future that is sustainable, simpler, more scalable, automated, and offering much more flexible service delivery. Nokia, and the industry as a whole, must show that they understand the problems and potential, with a revitalized approach as indicated by the long-term Nokia Technology Strategy 2030."

Nokia Collaborates with Hololight to Deliver Reliable Immersive XR Experiences with Latency-Improving Technology L4S

Nokia announced a collaboration with Hololight to explore how L4S, a Nokia-invented internet protocol, can enable applications and networks to simultaneously achieve high throughput and low latency in a scalable way. This greatly boosts the performance of real-time applications, particularly cloud-rendered extended reality (XR) services, which depend on very low levels of latency to generate fully immersive experiences. Hololight, a leading innovator of enterprise XR solutions, and Nokia developed a proof-of-concept that utilizes L4S to support high-quality multi-user XR experiences under real-world traffic conditions. Nokia and Hololight are showcasing the proof of concept in a demonstration at the Brooklyn 6G Summit (31 Oct – 2 Nov). The proof-of-concept will, for first time, test the performance of L4S with a scalable number of XR users simultaneously connected

to the same infrastructure. As L4S is an ecosystem play requiring support from both the application and the network, the collaboration between Nokia and Hololight is a critical step towards ensuring L4S implementations are properly optimized for key use cases like XR. L4S, which stands for low-latency, low-loss, scalable throughput, was originally pioneered by Nokia Bell Labs to support the large-scale rollout of real-time applications. L4S will be crucial in 5G-Advanced, and Nokia is driving L4S standardization efforts in 3GPP Release 18. L4S is also a key component of UNEXT, a new Nokia Bell Labs research initiative that will transform the network into a self-managing, interactive operating system that will break down barriers that have traditionally prevented network elements from interoperating. Philipp Landgraf, Senior Director XR Streaming, Hololight, said: "Partnering with Nokia puts us at the forefront of 6G innovation. Together, we are excited to pioneer a solution that enables smooth and stable streaming of XR applications with a high number of active users, even in the most challenging environments, ensuring an unparalleled user experience. The move to XR-based collaboration and digital prototyping is a monumental step towards reducing CO2 emissions by minimizing travel and waste, resulting in efficient production, minimized errors and a lighter environmental footprint." Koen De Schepper, Network Automation Research Principal, Nokia Bell Labs, said: "It's important to grow the ecosystem and show what the L4S protocol can bring to communications, in particular, to 5G-Advanced systems and beyond. With its advanced XR applications, Hololight will help us explore the user experience for future applications and what these applications and future networks will need to support."

Rakiza Fund acquires a 39% stake in ITHCA's Oman Broadband

Oman infrastructure Fund "Rakiza" signed an agreement to acquire a 39% stake in Oman Broadband Company (the government's arm in the development of broadband infrastructure in the Sultanate of Oman) from Ithca Group.The agreement was signed by Engineer Said bin Abdullah Al Mandhari, CEO of ITHCA Group, and chairman of Oman Broadband Company, and Muneer bin Ali Al Muneeri, CEO of Oman Infrastructure Investment Management "Rakiza". In response to the agreement signing, Engineer Said Al Mandhari, CEO of ITHCA Group stated that: "This marks a significant achievement in the Group's plan to divest certain assets utilize the resulting capital gains in advancing state-of-the-art technologies." He added that "Our broadband journey began in 2014, during which, we accomplished notable positive results, with non-government backed commercial funding solutions." "Oman Broadband Company has also succeeded in building a strong infrastructure base which serves as a shared resource for all licensed telecom operators in the Sultanate. This harmonizes efforts to expand the network and avoid overbuilding of telecommunications infrastructure across the Sultanate. These achievements complement various initiatives undertaken by the Group to nurture and empower Omani talents through several programs such as the "Tamkeen program." Al Mandhari also added that "This acquisition by Rakiza will strengthen our collaboration with our partners and contribute to the enrichment of Oman Broadband Company's initiatives. This, in turn, facilitate increased investment and support for startups in the ICT sector. This partnership will play a significant role in fostering growth in Oman's economy and its Gross Domestic Product, and bolstering the Group's financial position, and expanding its investments portfolio, ultimately creating job opportunities for Omani youth and job seekers alike." Muneer bin Ali al Muneeri, CEO of Oman Infrastructure Investment Management "Rakiza", added: "We are pleased to complete our investment in the Oman Broadband Company in partnership with ITHCA Group. We remain committed to achieving the Sultanate's National Broadband Strategy and facilitating growth in fiber networks across the Sultanate. "This marks a significant step in realizing the Sultanate's vision of establishing a world-class digital communication network throughout the nation. Notably, this investment marks s Rakiza's fourth acquisition in key infrastructure sectors in Oman. Engineer Sultan bin Ahmed Al Wahaibi, CEO of the Oman Broadband Company also commented on this agreement saying: "The partnership with an institutional investor of Rakiza's

stature, will unlock investment prospects and facilitate growth in broadband network infrastructure in Oman. Continuous improvements and upgrading are going to remain essential to make the Sultanate an attractive destination for foreign investments. "Oman Broadband Company is the government's arm in the construction and development of broadband infrastructure in the Sultanate of Oman". "We are positively contributing to telecommunications service providers in the Sultanate of Oman. Our support and assistance, combined with operating the largest fiber network in the country, is led by a professional and competent Omani team and is supported by our talented contractors and technicians across all governorates. We are committed to providing training and empowerment to these professionals, to ensure the widestr possible coverage of fiber optic networks across the Sultanate of Oman. We are dedicated to expanding and improving the network infrastructure, allowing residents in urban or rural areas to have access to a reliable high-speed broadband internet connection, thereby contributing to the growth and sustainability of our national economy."

U.S. Department of Defense Awards Low Earth Orbit IDIQ Contract to SES Space & Defense

SES Space & Defense, a wholly-owned subsidiary of SES, has been awarded a five-year, Indefinite Delivery Indefinite Quantity (IDIQ) contract for proliferated Low Earth Orbit (pLEO) satellite-based services (SBS). The IDIQ vehicle was awarded through the Defense Information Systems Agency's (DISA) Defense Information Technology Contracting Organization (DITCO) by the U.S. Space Force. Under the multi-award contract, valued at up to USD 900 million, the U.S. Department of Defense (DoD), federal agencies, and international coalition partners can acquire fully managed low-latency LEO SBS from 16 selected awardees, including SES Space & Defense. As the industry's leading COMSATCOM operator and integrator, SES Space & Defense possesses distinct advantages in providing the U.S. DoD with value-added solutions at the tactical edge. The company leverages SES's global fleet of more than 70 Geostationary Earth Orbit (GEO) and Medium Earth Orbit (MEO) satellites, coupled with LEO partnerships, to create a fully managed and integrated terrestrial and space network. Satellite services delivered via multiple orbits enable a comprehensive range of new connectivity capabilities for the U.S. DoD. Non-geostationary satellite orbits (NGSO) - LEO and MEO - provide low-latency and flexible, fiber-like connectivity ideal for high-bandwidth, real-time applications, while GEO satellites enhance global resiliency and redundancy enabling a broader scope of government use cases. SES Space & Defense also offers enterprise management and control (EM&C) capabilities, facilitating a seamless, integrated network of COMSATCOM and MILSATCOM systems and extensive experience in building and operating global networks. This enables DoD users to enjoy resilient, redundant, and secure multi-orbit, multi-band network solutions. "The pLEO IDIQ is the first multiple award contract to deliver pLEO COMSATCOM services to the government and military," said SES Space & Defense President and CEO, David Fields. "The contract structure is part of the U.S. Space Force's new approach to acquiring SATCOM. These awards are foundational for COMSATCOM integration and proliferation into new waveforms and orbits enabling connectivity and communication at the tactical edge."

SES's Fifth and Sixth O3b mPOWER Satellites Successfully Launched

SES announced that two additional O3b mPOWER satellites were successfully launched into space by a SpaceX Falcon 9 rocket from Cape Canaveral Space Force Station in Florida, United States, at 4:08pm local time. With the fifth and sixth O3b mPOWER satellites launched, the system completes the six medium earth orbit (MEO) satellites required to offer high-performance network services delivering high throughput, predictable low latency, unique flexibility and service availability. Last month, SES announced it will add to the constellation two more satellites built by Boeing, bringing the total number of O3b mPOWER satellites to 13. The additional investment is expected to be covered within SES's existing committed CapEx envelope. The first four O3b mPOWER satellites launched in the last year have arrived at their target orbital position and are undergoing in-orbit checks, including a series of system validation tests encompassing both space and ground

components. In 2023 alone, SES has rolled out and tested more than 160 O3b mPOWER terminals over the existing O3b constellation to serve mobility, telecom, government, and enterprise customers. "With the fifth and sixth O3b mPOWER satellites launched and going operational in the next few months, we are gearing up to deliver the high-performance connectivity services our customers need. By building resiliency into the network, we are confident our customers will be able to depend on us to deliver the reliable and secure connectivity required to run their operations," said Ruy Pinto, CEO of SES. O3b mPOWER commercial service is expected to begin during the second quarter of 2024. For additional information on O3b mPOWER, visit the newsroom.

SES-Led EAGLE-1 Onboards TNO and Airbus to Deliver Ground Station for Quantum Key Distribution

The SES-led consortium of European companies, responsible for development of the quantum secure space-based EAGLE-1 system and working in close collaboration with the European Space Agency (ESA), is joined by TNO and Airbus Netherlands B.V., to design and build an optical ground station for the mission. The contract was signed today by the partners at the Space Tech Expo in Bremen.

The optical ground station for EAGLE-1 represents a highly advanced and complex system which will be able to receive quantum encryption keys from the EAGLE-1 satellite, and will have at its core a system that integrates fast adaptive optics, accurate mirrors, a robust fiber coupling, a novel laser beacon system, and a stabilized telescope. TNO and Airbus Netherlands B.V. will lead the collaboration to design and build the optical ground station, where TNO is responsible for the design, the adaptive optics and overall system engineering, and the Airbus team in the Netherlands will develop the support technologies, control platform, and implementation. The collaboration is jointly funded by the Netherlands Space Office (NSO) and NXTGEN HIGHTECH. The organizations are joined by:

- Officina Stellare (OFS) responsible for the telescope and dome design
- Celestia-STS who will be designing the optical digital modem in collaboration with TNO and TESAT
- Demcon who will deliver the design of the wave front sensor, a critical component for the adaptive optics

Co-funded by the European Space Agency (ESA) and the European Commission (EC), together with the space agencies of Germany, Luxembourg, Austria, Italy, the Netherlands, Switzerland, Belgium and the Czech Republic, and the industry, the EAGLE-1 program will demonstrate the feasibility of quantum key distribution (QKD) technology via satellite within the EU and beyond, enabling next generation cybersecurity for the Member States. It will also provide valuable mission data for the future deployment of a secure quantum communication infrastructure for the EU (EuroQCI). "EAGLE-1 is yet another example of how Europe can leverage its expertise in space and satellite industries and bring together partners from various parts of the continent to push the technology and innovation boundaries. With these new partners, Europe is one step closer to securing an end-to-end solution for quantum communications," said Milton Torres, Chief Technology Officer of SES. "We're excited about this cooperation. By combining TNO's expertise in free space optics and quantum, we can contribute to the future of secure communication networks for Europe. This development will strengthen the position of Europe, the Netherlands and our partners in a global emerging value chain," said Kees Buijsrogge, Director TNO Space. Rob Postma, Managing Director of Airbus Netherlands B.V.: "This contract marks the beginning of the development of a promising product for the laser satcom market. In parallel, we are preparing the next steps in industrializing the ground station for the European quantum communication infrastructure."

stc Kuwait Pilots 5G New Calling

stc Kuwait has announced the successful completion of a 'pilot test' of 5G New Calling technology, claiming a national and regional first. The new technology – which STC indicates it will launch commercially 'soon' – supports interactive HD video communication and features such as 'video calls with real-time translations, speech-to-text capabilities, screen sharing, an interactive visual menu, and Enterprise ID cards.' CTO Fahad Al Ali declared: 'The potential of 5G goes beyond just speed, it is about creating an interconnected world where information flows seamlessly, with reduced latency and enhanced reliability. Following the success of the 5G New Calling pilot test, STC is primed to transform the telecom industry, providing superior user experiences, enhanced security, and cost-effective solutions for enterprises across various verticals. Having said that, we are deeply committed to staying ahead of the curve, investing in research and development, and pushing the boundaries of what is possible in the telecom sector.'

stc Bahrain Wins "Best Economic Performance" at Al Bilad Awards for Corporate Social Responsibility

stc Bahrain, a world-class digital enabler, has been awarded the Al-Bilad Corporate Social Responsibility award for "Best Economic Performance". The award is in honor of stc Bahrain's graduate development program, "jeel ICT". The initiative is in line with the Kingdom of Bahrain's vision to invest in building the next generation of Bahrain's workforce by providing opportunities for skill and talent development. In partnership with the Ministry of Labor, Bahrain Economic Development Board (EDB) and Tamkeen, "jeel ICT" is designed to carve out the next generation of Bahraini techno-commercial professionals, training the youth in the new age skill sets and give them opportunities to test their skills in a real-time corporate environment. Commenting on the award, Shaikh Zeyad Al Khalifa, the Chief Government Affairs Officer at stc Bahrain said, "We are incredibly proud to be recipients of this award in recognition of our continuous efforts to empower Bahrain's youth and to enable the growth of essential tech skills to build the Kingdom's digital economy. As part of our CSR strategy, we are dedicated to fostering a skilled and talented workforce, playing a significant role in driving the nation's digital transformation and economic development." "jeel ICT" program, will train selected university students to participate in a training program at stc Bahrain, investing in their career development through coaching, mentoring, and building their professional skill sets. Upon completion the program, a number of "jeel ICT" trainees will be offered a full-time employment opportunity at the company.

Tech Mahindra Q2'24 Revenue Rs 12,864 Crores

Tech Mahindra Ltd., a specialist in digital transformation, consulting and business re-engineering services announced the audited consolidated financial results for its quarter ended September 30th, 2023.

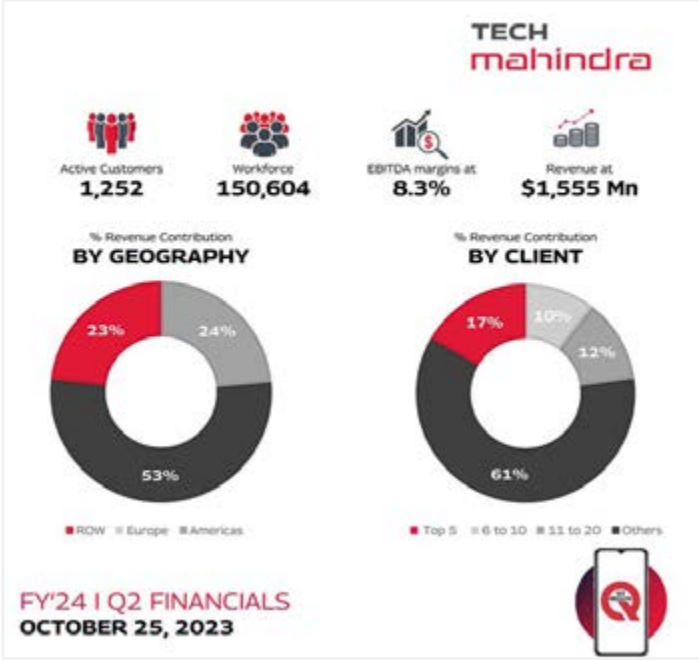
Financial highlights for the quarter (USD)

- Revenue at 12,864 crores; down 2.2% QoQ, down 2.0% YoY
- EBITDA at 1,072 crores; down 19.9% QoQ, down 46.0% YoY
- Consolidated PAT at 494 crores; down 28.7% QoQ, down 61.6% YoY
- Earnings per share (EPS) at 5.6
- The Board approved interim dividend of Rs. 12 per share

Other Highlights

- Total headcount at 150,604 up 2,307 QoQ
- Cash and Cash Equivalent at INR 6,515 cr as of September 30, 2023

CP Gurnani, Managing Director & Chief Executive Officer, Tech Mahindra, said, "The year is being characterized by a challenging demand environment and prolonged macro uncertainties calling for a very tactical approach. We have doubled down our strategy of working closely with clients, helping them to streamline and modernize operations as they reprioritize their resources."



Tech Mahindra Launches Generative AI Powered Vision amplifAIer, a Smart Data Scientist for Business Analysts

Tech Mahindra, a leading provider of digital transformation, consulting, and business re-engineering services and solutions, announced the launch of 'Vision amplifAIer' solution under TechM amplifAI0->∞ suit of AI offerings and solutions. The solution will amplify the computer vision related use cases for enterprises. It will provide end-to-end life cycle management of computer vision (CV) projects, with emphasis on de-skilling the whole process. In any computer vision use case, significant time is spent on the initial step, namely, data pre-processing, use case understanding, test data preparation, model development and training. Tech Mahindra's Vision amplifAIer will reduce turnaround time required for each step of the workflow, by allowing techno-functional workforce to develop CV use cases without having data science skills. It will help enterprises to scale AI by streamlining and accelerating the process of building use cases. The solution will provide pre-built models and generative AI-led capability to create synthetic data, reuse existing models to be repurposed for new use case with power of transfer learning. Hasit Trivedi, CTO – Digital Services and Global Head - AI, Tech Mahindra says, "Computer vision allows businesses to reimagine their existing way of working and solving problems. However, scaling is a key challenge in this space, due to the cost, skill and time needed to build the use cases. Manageability and standardization are other important elements to stay responsible in overall adoption. Our Generative AI-powered Vision amplifAIer will bring complex technology elements together in a deskilling manner. It will bring consistency and re-usability across the spectrum, empowering enterprises to scale faster and achieving better business outcomes. At Tech Mahindra, we always emphasize scaling AI in a responsible manner and democratizing it. Vision amplfAIer is a significant addition to our AI suite of solutions for our customers to achieve the same purpose." The solution combines the power of generative AI models and features like object detection, moderation, extraction, and monitoring aspects to allow enterprises to build domain specific use cases. These core capabilities are supported by an easy-to-use workbench for the business users to manage technology lifecycle of the model training to deployment. With Tech Mahindra's distinctive investments in the AI space, comprehensive understanding of customer needs, and expertise in fostering digital transformation within the enterprise, Vision amplifAIer will drive unprecedented efficiency for enterprises across industries. The launch of generative AI-powered Vision amplifAIer is in line with Tech Mahindra's continuous endeavor to transform enterprises with advanced AI-led offerings and solutions, along with its recent addition of Ops amplifAIer, Email amplifAIer, Enterprise Knowledge Search offering, Evangelize Pair Programming, and Generative AI Studio.

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ARTICLE

IoT Use Cases for Strong Revenue Opportunities in MENA

In the last several years, communications service providers (CSPs) started adopting and developing the Internet of Things (IoT) to generate alternative revenue streams. This is not surprising, as IoT already has an impact om everyday life and work, and we will see more exciting emerging trends as the IoT market will grow further. In 2023, there are 19.8 billion installed and connected devices across the world, and by 2025, they are expected to increase to 30.9 billion. MENA will also likely benefit from a productivity effect from IoT-based products and services. For all ecosystem players in MENA, IoT revenue will increase by approximately 19% per year to reach $55 billion in 2025. According to the GSMA, the economic benefit will rise to $18 billion in 2025, equivalent to a GDP contribution of 0.3% to the regional economy.

Building IoT ecosystems is closely related to developing applications designed to collect, transfer, and process data from connected devices. There are opportunities to create a wide range of IoT solutions based on mobile connectivity management. Connectivity management platforms serve as a foundation to build the CSP's business in the IoT market, as they provide clients with the next level of visibility through IoT-enabled devices and access to IoT data. For instance, Nexign IoT Connectivity Platform helps CSPs automate core business processes in the IoT and machine-to-machine (M2M) market. It provides end-to-end IoT client lifecycle management and enables CSPs to create a digital ecosystem, generate new revenue streams, and reduce operating expenditure (OPEX) for customer support and BSS maintenance.

Along with 5G, IoT is crucial for industrial digitalization. 5G and IoT let CSPs offer customized network slices to meet the client's needs. For instance, they determine the speed of data transfer, the amount of data that could be sent between devices, and network coverage. The industrial IoT market is expected to exceed $1 trillion by 2028, as companies across the world require greater efficiency and control in industrial operations. In MENA, industrial IoT is the fastest growing IoT segment. It is anticipated to reach 57% of total IoT connections in the region by 2025 due to an increase in smart utilities, smart retail, and smart city deployments.

Mikhail Matyushin
Chief Executive Officer
Nexign

IoT Use Cases: Oil and Gas

One of the major industries that could benefit from IoT is oil and gas. Large industrial enterprises widely apply it to optimize their technological and business operations. For example, IoT has been used for smart metering to monitor real-time gas transfer and consumption levels. It helps control distributed and consumed gas parameters, including volume, temperature, and pressure, online. Besides, IoT helps receive information about the location of a gas meter, as well as establish limits for data and voice traffic. It also accounts for the API integration of SIM control inside enterprise resource planning (ERP).

Additionally, IoT-based smart helmets have been developed to monitor workspace safety. A helmet contains several electronic modules with special sensors, such as a positioning device, GPS GLONASS-GSM module, gyroscope, and accelerometer. It detects if workers enter a restricted or hazardous area and alerts them, thus preventing an accident and eliminating a risk of injury.

One more case illustrating how IoT is used in the oil and gas industry is a smart gas station. It answers for real-time monitoring of gas stations, manual intervention reduction, and inventory management. IoT-based smart gas station supports the payment for fuel through smartphones, improves the quality of monitoring and control at the filling station. IoT also provides sensors, modules for Internet access, and M2M interaction through data exchange protocols for fuel-filling columns. Smart gas stations allow the monitoring of fuel tanks, engineering systems, and gas station buildings. They utilize predictive on demand analytics to optimize operations, increase employee productivity, and the ability to develop and introduce new services for consumers.

Personal Mobility

IoT also significantly improves personal mobility by advancing transportation and delivery services. For example, companies offering app-based short-time rental of electric scooters use IoT to have complete control over their scooter fleet dispersed throughout the country and across cities. IoT helps them secure traffic communicated from the scooters to the receiving servers and detect usage anomalies. Additionally, the technology allows the e-scooter industry to comply with rapidly changing governmental regulations, including speed limits, restricted areas, vehicle caps, and parking zones.

Furthermore, IoT technologies provide real-time monitoring of food and box delivery and enhance the quality of service. Couriers use electric scooters, and customers can see them on the map, track the delivery process, and leave feedback for delivery improvement.

Ecological Benefits

It is worth noting that IoT is also used to monitor CO2 and other emissions. Environmental pollution has been a significant issue for years, and it is necessary to automate data collection for internal control and information transfer to government agencies for centralized management of industrial waste. IoT helps resolve the problem by real-time monitoring of air and water quality parameters, including suspended solids (mass concentration of dust PM 2.5, PM10), nitrogen dioxide, sulfur dioxide, hydrogen sulfide, carbon oxide, ozone, temperature, humidity, and pressure. IoT also allows the comparison of received data with the accepted standard and reports admissibility or non-compliance using SMS, push, email, or other notifications. IoT devices can be integrated into federal information systems, thus allowing for urgent measures at the governmental level. The technology is independent of third-party measurement laboratories to reduce the risks of data contradiction and fraud.

New Business Opportunities for CSPs

IoT is not unique to the telecom market, but CSPs can integrate it into their services to significantly expand the scope of services offered to clients and, consequently, increase the income level. Besides, IoT helps CSPs go beyond traditional telecom services and collaborate with other spheres. For instance, one of the promising areas for IoT application is the housing and communal services segment. Here, CSPs can collaborate with a contractor and sensor manufacturer to provide smart sensors for homes during construction. Besides, IoT can be used to develop smart meters for water, gas, electricity, and heat in smart homes. It automates accounting systems, improves energy efficiency, and reduces costs.

Trends in IoT Development

Several trends are anticipated during the further IoT development. First, security and surveillance will be at the forefront of the IoT market. Today, data privacy is one of the primary concerns in using IoT, and it is necessary to research the latest innovations to resolve the problem and use them promptly. Second, the industrial IoT market will grow, as more and more businesses will utilize IoT to automate manufacturing. Additionally, 5G and immersive technologies will boost market opportunities and open new possibilities for revenue growth. Furthermore, the rise of social consciousness and the focus on sustainability will make environmental, social, and governance (ESG) investing a priority in the CEO agenda.

Speaking of trends in IoT, it is also worth noting new approaches to building infrastructure. The growing number of connected devices drives new requirements that traditional public cellular networks can't address. Verticals, such as utilities and agriculture, are exploring private cellular networks. These solutions will enable secure, on-premises deployments where public mobile networks are unavailable or not desired. Enterprises are looking for wireless networks that provide reliable coverage with the possibility of seamless roaming from public to private networks.

Conclusion

IoT adoption in MENA is expected to increase as the government strives to resolve the problem of resource scarcity and improve the well-being of citizens. The enterprises' drive to boost efficiencies and decrease costs is also helping to encourage IoT connections. CSPs understand the increasing demand for IoT and the opportunities lying behind. Previously, CSPs focused primarily on suggesting basic data plans for IoT device connectivity and narrow-band IoT (NB-IoT) over cellular networks, but today, they add more value to their offering and position themselves as key players in the IoT value chain. IoT will bring CSPs innovation, comprehensive solutions, and new income sources, opening endless growth opportunities in our interconnected world.

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REGIONAL NEWS

Saudi Arabia Leads Global Discussion on Space Economy and Sustainability

As a leader of the international efforts in harnessing Space services and sustainability to serve humanity, Saudi Arabia organized the "Future of the Space Economy" session on the sidelines of the World Radiocommunication Conference "WRC23", with the presence of international Space economy leaders from the public and private sector. During the session H.E. Dr. Mohammed Altamimi, the Governor of the Communications, Space and Technology Commission (CST), revealed investment opportunities that will make Saudi Arabia an enabler for Space technologies, with Space market value reaching more than $400 million and is expected to grow to increase by 87% in the future. H.E. Altamimi indicated that the new Space era is no more limited to few countries and organizations, but it became a dynamic, inclusive and rapidly evolving market. More than 90 countries invested in Space, and over 840 startups entered Space market within the last ten years, with an investment value of more than $40 billion, as the global Space economy is expected to reach $700B to $1 trillion in the coming years. In 2022, Space sector witnessed the largest number of satellites launching, with an average of 50 satellites launched per week. H.E. Altamimi also highlighted Saudi Arabia's efforts in promoting Space sustainability, raising the Space sector's contribution to the global economy through public-private partnerships, and building its capabilities in satellite manufacturing by owning infrastructures and space-launching capability for Space exploration. Saudi Arabia focuses on building national cadres, encouraging entrepreneurs, supporting startups and enabling investment through an innovative regulatory environment. It also relies on the development programs such as the Space Entrepreneurship Alliance, the Human Spaceflight Program, and the Space Accelerator program to achieve its goals.

MTN On-Track for Afghan Exit as Talks on Other Sales Continue

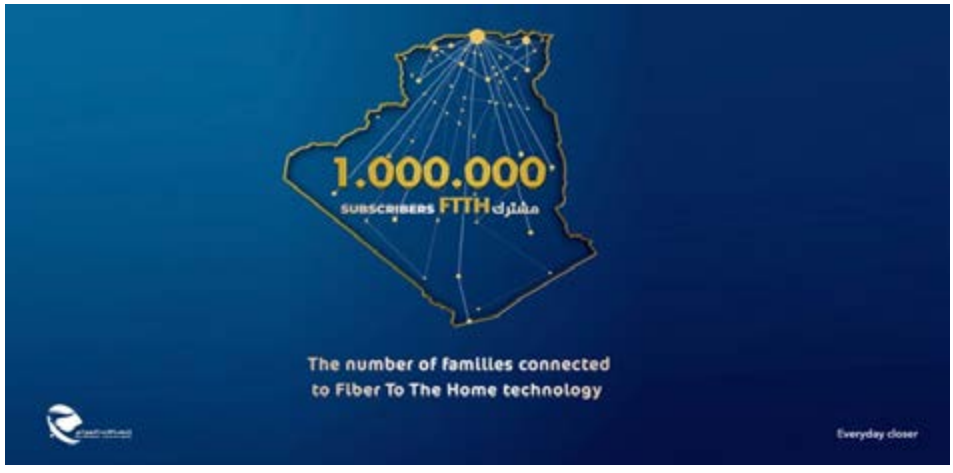
MTN Group used its Q3 update to highlight ongoing efforts to complete a number of deals, with the company expecting to be out of Afghanistan by the end of the year and targeting rapid progress towards finalizing a fintech investment from Mastercard. The operator cited completing the Mastercard investment as a focus for the current quarter. It also expects to finally exit Afghanistan in the next two months, with that process currently with regulators. MTN added it remains in discussions over the "potential orderly exit of three of our smaller operations in West Africa", with its units in Guinea-Bissau, Guinea-Conakry and Liberia on the block. CEO Ralph Mupita pointed to signs inflation was easing across several of its markets during Q3, including in South Africa, Ghana and Uganda. However, he noted foreign exchange rates remained volatile, especially in Nigeria where "naira devaluation had a material impact". In its home market of South Africa, Mupita said there had been continued issues with power outages, though reported "significant progress" in a network resilience program designed to mitigate this. MTN does not provide net profit figures for Q3, but booked revenue including the impact of hyperinflation of ZAR50.9 billon ($2.8 billion), down from ZAR53.5 billion in Q3 2022.

Bahrain's iGA and Saudi Digital Authority Discuss Collaboration at GCC eGovernment Meeting

In a recent development to strengthen regional digital collaboration, Bahrain's Information & eGovernment Authority (iGA) engaged in discussions with Saudi Arabia's Digital Government Authority during the 7th GCC eGovernment Ministerial Committee meeting in Oman. iGA Chief Executive Mohammed Ali Al Qaed met with Engineer Ahmed bin Mohammed Alsuwaiyan, the Governor of Saudi Arabia's Digital Government Authority, to explore potential collaborative avenues. Al Qaed lauded the solid relationship between Bahrain and Saudi Arabia, particularly praising Saudi Arabia's advancements in information and communication technology (ICT). He acknowledged the significant role played by the Digital Government Authority in Saudi Arabia's journey towards digital transformation in government services, expressing his best wishes for their continued progress. The meeting also served as a platform for Al Qaed to highlight Bahrain's achievements in eGovernment initiatives, national projects, and its digital transformation journey. He emphasized the importance of enhancing technical cooperation between the two nations to further these efforts. In response, the Saudi Governor praised the iGA's efforts in digital policy implementation and transformation within Bahrain's government sector. Recognizing the mutual benefits of such a partnership, Alsuwaiyan extended an invitation to Al Qaed to participate in the upcoming Digital Government Forum in Riyadh, scheduled for December 19 to 20. According to MEA Tech Watch, the forum presents an invaluable opportunity for Bahrain to exhibit its leadership in digital transformation. It also provides a stage for engaging with global experts and decision-makers in the field of digital government. This exchange of ideas and experiences is expected to contribute significantly to the regional discourse on eGovernment and digital transformation, further fostering cooperation between Bahrain and Saudi Arabia in the digital realm.

Algerie Telecom Reaches One Million FTTH Subscriptions

Algeria's dominant state-backed telco Algerie Telecom announced on 4 November 2023 that it has achieved the milestone of one million fiber-to-the-home (FTTH) subscriptions, noting that the figure had risen from around 50,000 in early 2020 to cross the million mark less than four years later. The operator highlighted in its press release that recent rapid take-up growth for the 'Idoom' branded FTTH service – which registered its 900,000th subscription in September, having passed 800,000 in July – is in line with strategic objectives of the Government Action Plan on ICT which prioritizes direct fiber access technology. The FTTH deployment program includes all 58 national provinces (wilayas), with a focus on connecting those who are not yet connected to the internet, particularly in new cities and urban centers, and modernizing existing copper-based access networks to gradually switch subscribers from xDSL to FTTH. The Algerie Telecom carried out the official consumer launch of fiber broadband services in January 2018, having developed B2B-only services plus limited residential pilots since 2010, and its Idoom fiber subscription total reached 478,000 by end-2022 (of a total 4.689 million fixed broadband subscriptions) and 755,000 by mid-2023 (out of 5.068 million total connections). Alongside fiber the telco operates xDSL and fixed wireless (FDD-LTE) broadband access platforms, while sister company Algerie Telecom Satellite offers B2B VSAT connectivity, and the group enjoys near-complete dominance of the fixed ISP sector, claiming 5.4 million total accesses by early November 2023.



Saudi Arabia Unveils International Center for AI Research and Ethics

The stage is set for the opening of a new artificial intelligence center in Riyadh, dedicated to promoting ethics in advanced technologies and contributing to the development of sector policies in the Gulf region. Saudi Minister of Culture Prince Badr Bin Farhan announced the establishment of the International Center for Artificial Intelligence Research and Ethics during the 42nd session of UNESCO's General Conference in Paris on November 11. The initiative, approved by Saudi Arabia's Crown Prince Mohammed bin Salman in June, aims to advance competencies and legislative frameworks in the field of AI and other advanced technologies. The proposal for the International Center for AI Research and Ethics was initially submitted to UNESCO in March 2022, garnering support from Kuwait and Oman. As per the Saudi Press Agency, the center will operate with legal personality and financial and administrative independence, working toward fostering the growth of advanced technologies like AI within the Kingdom. Earlier this year, the global consultancy firm PwC projected that AI would contribute $135 billion to the Saudi economy by 2030, positioning the Kingdom as the primary beneficiary of technology in the Middle East. "In absolute terms, the largest gains are expected to accrue to Saudi Arabia where AI is expected to contribute over $135.2 billion in 2030 to the economy, equivalent to 12.4 percent of the gross domestic product," said PwC in its report. In June, Saudi Arabia established the Global Cybersecurity Forum Institute in Riyadh, aiming to harness the potential of cyberspace and support global efforts to enhance cybersecurity. According to a report published by the SPA, the institute will host an annual global security forum, bringing together experts and decision-makers from around the world to discuss ways to protect the most vulnerable in cyberspace while maximizing its benefits for everyone. As Saudi Arabia continues its embrace of advanced technologies, Microsoft Chairman and CEO Satya Nadella told in a recent interview with Arab News that the country's push toward artificial intelligence has significantly increased productivity. "Especially with the age of AI coming, this is a fantastic time for us to bring world-class technology to Saudi Arabia so that it can create world-class technology for the world," he said. Nadella added that small businesses in Saudi Arabia could become more productive if they leverage the advantages of AI.

NTA to Implement MDMS from 6 November

The Nepal Telecommunications Authority (NTA) states that it is implementing the Mobile Device Management System (MDMS) from 6th November. With the implementation, NTA may block phones that are not registered in MDMS. The telecommunications regulatory body of Nepal issued a notice on October 21, 2023, urging users to register unregistered mobile phones in the system within 15 days. The notice stated that phones not registered in MDMS within the specified 15-day period will not operate in Nepal. According to the authority, as reported by Kantipur TV, for the first phase, the system will be implemented on high-end phones worth more than 100,000 rupees. Upon the implementation of MDMS, illegally imported mobile phones will no longer be able to use carrier services from any service provider in Nepal. This measure aims to reduce the import of 'grey phones,' which are phones brought into the country through unofficial channels. However, Given Nepal's past experiences with MDMS implementations, doubts persist regarding the system's potential success. In the past, NTA issued many notices regarding the implementation; however, it failed to implement the system effectively. The recent MDMS implementation seems confident. The system is also sending warning SMS to unregistered devices. Let's see if today's MDMS implementation will be successful.

Saudi Arabia Excels in Global Digital Regulatory Rankings, Surpasses G20 Nations

Saudi Arabia excels in the Digital Regulatory Maturity Index, surpassing leading G20 countries, according to the International Telecommunication Union (ITU). The Kingdom's achievement is attributed to collaborative efforts between local and international entities. Key contributors to this achievement include the Digital Regulatory Academy, regulatory innovation, global leadership, and the establishment of advanced digital infrastructure. These developments align with Saudi Vision 2030 objectives, focusing on creating an attractive regulatory environment, boosting digital economy investments, and enhancing collaboration among regulators. This achievement is expected to drive the growth of Saudi Arabia's digital economy. The successful outcome reinforces Saudi Arabia's influential role in the ITU and stimulates competition and investments in the ICT sector. Numerous government entities, including the CST, National Regulatory Committee, and several Ministries, played a crucial role in this accomplishment.

Ooredoo Kuwait Expansion of Its IoT Portfolio

Ooredoo Kuwait has announced the expansion of its portfolio of IoT connectivity solutions with the launch of NB-IoT technology for its business customers, fully integrated with its existing cellular network platforms. A press release lauds NB-IoT's cost-effective, energy-efficient, robust, dependable and seamless connectivity for an extensive range of devices and applications, extended device battery life of up to ten years, enhanced security features, deep indoor and remote coverage, ultra-low complexity and support for massive-scale IoT connections. Ooredoo targets a wide range of applications with NB-IoT, giving examples such as asset tracking, smart homes, wearable devices, public sector city infrastructure services, industrial automation, real-time environmental monitoring and healthcare systems.

IoT Market in Qatar to Reach $2.72 Billion by 2028

The Internet of Things (IoT) market in Qatar is projected to experience substantial growth, increasing from QR2.88 billion ($0.79 billion) in 2023 to QR9.87 billion ($2.71 billion) by 2028. This growth is anticipated to occur at a compound annual growth rate (CAGR) of 27.92 per cent between 2023 and 2028, according to a report by Research and Markets. The report highlights Qatar as a technologically advanced nation within the Arab world, showcasing a high level of innovation in IoT, virtual reality, robotics, and 5G. Qatar is actively embracing new technologies with a vision to become one of the smartest countries in the Middle East. The Ministry of Transportation and Communications has established the 'Tasmu Digital Valley,' an innovation cluster fostering collaboration among startups, entrepreneurs, investors, researchers, academics, students, multinational corporations, and institutions. IoT constitutes 40 per cent of the Tasmu Smart Qatar use cases, contributing significantly to the country's IoT market expansion. The government is driving initiatives to support IoT market growth, exemplified by the Qatar Mobility Innovations Centre (QMIC), the first independent innovation Centre in the region. QMIC, through Labeeb IoT, aims to enhance and deploy smart mobility services and systems. The overarching objective is to leverage locally engineered innovations to address regional challenges and contribute to major projects in the area. The report also notes the rise in smart home projects in Qatar, emphasizing their positive impact on market growth. Additionally, the efforts of market vendors in advancing 5G connectivity are expected further to expand the scope of smart homes in the country, contributing positively to market growth. Qatar has positioned itself as a global leader in 5G network coverage, with high levels of internet and smartphone penetration. The extensive mobile connections in Qatar, reaching 151.8 per cent of the total population in January 2022 according to GSMA Intelligence, indicate a conducive environment for major telecom players to drive 5G deployment efforts.

Libya Joins Medusa Submarine Cable Project to Boost Telecom Services and Digital Transformation

The Libyan United International Company (LUIC), a newly established private sector entity specializing in communications, recently inked a contract to integrate Libya into the Medusa submarine cable project. This ambitious project interconnects Libya with various Mediterranean countries, including Italy, Spain, Portugal, Morocco, Tunisia, Greece, Egypt, and Cyprus. The LUIC represents a consortium of Libyan private sector firms operating in the communications industry. The signing ceremony, conducted in Tripoli, witnessed the presence of Ibrahim Rehab, LUIC's Chairman, Spanish Ambassador to Libya Javier Garcia-Larrache, representatives from the Medusa submarine cable system in Spain, directors from several

Libyan telecom companies, as well as communication sector experts and engineers. Ibrahim Rehab, Chairman of LUIC, expressed optimism about this contract's potential. It is expected to propel Libya's telecommunications sector forward, aligning it with the progress observed in nations that have already integrated with the Medusa cable network. Libya's participation will enable it to export telecom and internet services to African countries, marking a significant economic opportunity and diversifying employment prospects in the telecommunications field. Rehab highlighted that incorporating the Medusa submarine cable system into Libya's communication infrastructure will offer additional communication solutions and diversify submarine cable infrastructure. This development represents a significant advancement in Libya's communication sector, positioning the nation as a vital hub linking Europe and Africa. Moreover, Rehab emphasized the ability of the local private sector to effectively connect and operate submarine cables, fostering a competitive environment with public sector organizations. This approach aligns with the strategic vision set forth by the Libyan government in Tripoli, aimed at enhancing the telecommunications sector through licenses to connect with the Medusa submarine cable, thereby supporting Libya's digital transformation by ensuring secure diversification of communication sources. Mohamed Al-Nasr, Director of Al-Shafaq Al-Dhahabi Communications Company, a part of the LUIC consortium, shared insights regarding the connection process to the Medusa cable. Work on this project commenced toward the end of the previous year, particularly with the impending expiration of the submarine cable linking Italy in 2025. Connecting to the Medusa cable is expected to take approximately 26 months. Once completed, it promises to usher in a substantial improvement in the quality, capacity, and speed of local communications and internet services. Libya will subsequently have the capability to export these services to countries such as Chad, Niger, Mali, and Central African nations. Moreover, the connection to the Medusa cable will address challenges associated with maritime connectivity networks by creating new data channels in Tripoli and Benghazi. This diversification of data movement is set to alleviate congestion while increasing capacity through cables containing a greater number of fibers. The Medusa submarine cable system segments consist of 24 fiber pairs, transmitting approximately 20 Tbps per fiber pair. This integration with the Medusa cable is poised to position Libya as a digital gateway to Africa. It not only bolsters Libya's digital sovereignty securely and in an advanced manner but also aligns with the national strategy for digital transformation in the country.

CST Governor Awarded the Qualified Teams in the "Space Challenge Camp" with the Participation Of +100 National Cadres

H.E. Dr. Mohammed bin Saud Altamimi, Governor of the Communications, Space and Technology Commission (CST), with the presence of the CEO of Mohammed Bin Salman City Nonprofit (Misk), has awarded the qualified teams in the "Space Challenge Camp". Which witnessed the participation of more than 100 innovators of undergraduates and fresh graduates in the field of Space Science and Engineering; and by organizing this event CST is committed to empower national human capabilities in the space sector. The Space Challenge Camp introduced various subjects such as space program management, the fundamentals of human Spaceflight mission design, design skills, problem-solving skills, teamwork skills, and team management. It also witnessed participants competing to design innovative solutions for the challenges faced by astronauts in spaceflight missions. CST pointed out that the Space Challenge Camp was held over 10 days, providing an exceptional learning experience with the participation of several experts in Space. The camp aims to develop the knowledge and skills of the participants, enhance national capabilities, and build a creative generation by inspiring them to pursue future opportunities in the Space sector. The Space Challenge Camp is part of the CST's role to regulate the Space sector, in an effort to promote innovation, inspire future generations, and enhance the Kingdom's aspirations for leadership in the Space sector. The camp also supports the adoption of emerging Space activities, the provision of expertise, and the development of national organizational capabilities in the field.

Morocco Leads Africa's Technological Advancements

Morocco has emerged as the leader in Africa's technology sector, surpassing countries like South Africa, Egypt, and Kenya, according to Monkey Insider. Based on the World Intellectual Property Organization's data, Morocco's impressive performance in information and communications technology (ICT), knowledge and technology outputs, and high-tech manufacturing contributed to its top rank.

Pioneering 3G and Digital Transformation

Morocco was the first African country to implement 3G technology, although it is still preparing to transition to 5G. The country has rapidly advanced in internet access and IT infrastructure, ranking second in digital transformation in Africa in 2021.

Global Network Readiness Index

In the 2022 Portland Institute's Network Readiness Index, Morocco ranked 79th out of 131 countries. The country excelled in e-commerce legislation, ICT service exports, and high-tech manufacturing, demonstrating its robust ICT application and impact on the economy.

Focusing on Digital Infrastructure

Morocco recognizes digitalization and internet access improvement as crucial for its social and economic development. The government has prioritized enhancing digital infrastructure to meet future challenges. Challenges in Financial Digitization Despite advancements, Morocco faces challenges in financial digitization. A 2022 report by Endeavor revealed that 98% of transactions in Morocco are still conducted in cash, indicating a lag in adopting digital financial services.

Largest Data Center to Open in Jordan

The Aqaba Digital Hub is gearing up to unveil the largest data center in Jordan by the end of 2023, as reported by the Jordan News Agency. It embraces everything from a mega data center and internet exchange point to cloud platforms and fiber networks, among many more. The facility, valued at JD100 million ($141 million), stands as a testament to our commitment to revolutionizing the digital landscape and empowering communities. Since the launch of this ground-breaking project, the Aqaba Digital Hub has played a pivotal role in the community by creating 300 direct and indirect job opportunities, fostering economic growth and stability in Aqaba. At the heart of our digital marvel lies a cutting-edge data center with a capacity of 6 megawatts. It has been linked to a neutral internet exchange point, facilitating seamless data interchange with local telecommunications firms, internet service providers, and digital content providers. This means quicker access times and reduced data-sharing costs. The project aims to establish a secure environment for sensitive data, aligning with global standards. This facility will function as both a primary and backup data center, ensuring business continuity and disaster recovery.

ADH CEO Eyad Abu Khorma emphasized the center's collaboration with prominent international companies, providing expertise through specialized training and workshops. Additionally, partnerships with governmental and educational bodies aim to empower the Aqaba community. The CEO highlighted Jordan's pivotal role as a global hub and distribution point for submarine cables linking Europe and India, attributed to the adaptable regulations governing the communications sector.

KT, Hyundai E&C, and stc Group Jointly Cooperate to Take the Lead in Building Digital Infrastructure for Saudi Arabia's Next 50 Years

KT, in collaboration with Hyundai Engineering & Construction (Hyundai E&C) and stc group, an engine of digital transformation, is poised to spearhead the establishment of a leading digital infrastructure in Saudi Arabia, a venture set to span for the next 50 years. KT, under the leadership of CEO Kim Young Shub, participated in the 'Korea-Saudi 50th Anniversary Construction Cooperation Event' held on October 23 in Riyadh, Saudi Arabia. This event, hosted by the Ministry of Land, Infrastructure and Transport (MOLIT) of Korea, marked the stage for KT's announcement on the 24th of October, disclosing the signing of a Memorandum of Understanding (MOU) with Hyundai E&C and stc group to catalyze the digital transformation of Saudi Arabia. In a prestigious ceremony where President Yoon Suk Yeol and Minister Won Hee-ryong were in attendance, the MOU was formally inked by KT CEO Kim Young Shub, Hyundai Engineering & Construction CEO Yoon Young Joon, and Olayan Alwetaid, stc group CEO. This momentous MOU signifies a commitment to combining KT's digital transformation (DX) capabilities and expertise with Hyundai E&C's acumen in smart construction and construction capabilities, synergized with stc group's excellent network infrastructure. Together, they will undertake the ambitious endeavor of constructing internet data centers (IDC), smart cities, charting a comprehensive path towards augmenting Saudi Arabia's digital infrastructure. This MOU can be traced back to November of the preceding year, when the 'Saudi One Team Korea' was formed under the leadership of the Ministry of Land, Infrastructure and Transport. Comprising approximately 120 governmental bodies and private enterprises, One Team Korea, which encompasses the Ministry of Land, Infrastructure and Transport (MOLIT), Korea Infrastructure and Urban Development Corporation (KIND), Korea Construction Association, KT, and Hyundai E&C, lays the groundwork for this meaningful collaboration between KT, Hyundai E&C, and stc group. In April 2016, Saudi Arabia unveiled an ambitious reform plan christened 'Saudi Vision 2030' aimed at diversifying its oil-centric industrial framework. Central to this vision is the significant expansion of smart infrastructure and digital transformation (DX) across all the industries, fostering a rapid advancement in the nation's digital landscape, encompassing the expansion of IDCs and the realization of smart cities. Prior to this event, KT Group held a meeting with the Governor H.E. Communications and Space Technology Committee (CST) and high-ranking officials from the Ministry of Information and Communication Technology (MCIT) at its headquarters and discussed the future cooperation in the DX domain, spanning IDC, autonomous driving, and R&D. Consequently, there is an optimistic outlook for close collaboration and synergy with the Saudi government, which exhibited a keen interest in Korea's digital transformation experience and cutting-edge technology. KT CEO Kim Young Shub remarked, "It is an immense honor for us to represent the Korean ICT companies in the realm of economic cooperation between Korea and Saudi Arabia." He further added, "Leveraging the wealth of business experience and ICT solutions acumen we have cultivated both domestically and overseas, we are eager to play a vital role as Saudi Arabia's digital innovation partner. Furthermore, as a member of One Team Korea, we are poised to collaborate closely with the government and corporate entities to realize tangible outcomes that are mutually beneficial for Korea and Saudi Arabia."

SCCC and SAP Join Hands to Expedite the Digital Transformation Process in the Kingdom

The Saudi Cloud Computing Company (SCCC), a subsidiary of stc Group, an engine of digital transformation, and SAP have recently formed a significant partnership focused on strengthening collaboration in the realm of digital transformation in Saudi Arabia. As part of this partnership, SAP solutions will be hosted locally in SCCC data centers, providing enhanced data security. The collaboration allows businesses to utilize the SaaS model by leveraging SAP's advanced features that come with an ERP system. The innovation is hosted on a secure, integrated infrastructure, reducing latency and data sovereignty issues. This agreement aligns with the Kingdom's push to establish a robust digital economy, encourage innovation, and facilitate customary practices. It also underscores the endeavors that contribute to realizing the Kingdom's Vision 2030 objectives concerning digital transformation. The primary goal is to take a significant step in the ongoing efforts to activate a highly efficient digital system in the Kingdom. Through this partnership, new avenues for collaboration and opportunities will emerge in the business sector, enabling substantial growth by fostering innovation and deploying cutting-edge digital solutions in accordance with the needs of local companies. Talal Al Bakr, CEO of SCCC, said: "The partnership between SCCC and SAP is set to revolutionize the digital landscape in the region with the use of the Alibaba Cloud Computing Technology. This pioneering platform is more than just an IT solution; it presents a unique opportunity for businesses to establish themselves in the Kingdom by providing a platform that fosters innovation, encourages healthy competition, and facilitates rapid growth. By leveraging the power of this technology, we are creating a future that aligns with Vision 2030. Mohammed AlRomaizan, Vice President, SAP KSA, also commented said: "Our partnership marks a crucial moment in the technology integration and innovation landscape. It paves the way for wider access to SAP's digital solutions, accelerating growth and driving innovation in the Kingdom. By leveraging stc group's market access capabilities across all sectors, we are poised to create new opportunities and expedite the digital transformation journey. This strategic collaboration will unlock immense potential for businesses and fuel technological advancements in the Kingdom." The Kingdom's business landscape can be transformed with the help of cutting-edge technology solutions that tap into local expertise and employ effective market leadership strategies, thereby creating new opportunities for growth and development.

Egyptian e-Commerce SaaS startup Awfar Raises Funding from VMS

Awfar.com, a leading provider of customer engagement and e-commerce solutions, is thrilled to announce its groundbreaking partnership with Value Maker Studio (VMS), an innovative venture studio dedicated to nurturing startup success. Awfar.com's cutting-edge platform specializes in omnichannel communication, sales channel optimization, e-commerce integration, and delivery management solutions. Over the years, it has significantly contributed to the growth and success of businesses across Egypt and the MENA region, earning a reputation as a one-stop shop for retailers seeking to enhance their customer engagement strategies and sales operations. Value Maker Studio (VMS), on the other hand, is a pioneer in value-focused innovation. As a venture studio, VMS brings together a diverse range of talents, resources, and ideas to transform innovative concepts into thriving businesses. Their mission is clear: to actively empower exceptional entrepreneurs, drive technological innovation, foster job creation, and secure a strategic foothold within the Saudi market. Awfar.com faced numerous challenges when exploring opportunities in Saudi Arabia, including navigating complex legal documents, securing financial support, and establishing critical market connections. However, through their partnership with VMS, they discovered the bridge program, an initiative designed to provide seamless entry into the Saudi market for

startups. Commenting on the partnership, Abdelrahman Galal, CEO and Co-founder of Awfar.com, said, "Our collaboration with Value Maker Studio marks a significant milestone in our journey. VMS's Bridge Program has been instrumental in helping us overcome the challenges of entering the Saudi market. In less than a month, we were able to secure contracts and establish partnerships with major chains in Saudi Arabia." The synergy between Awfar.com and VMS is poised to disrupt the Saudi Arabian startup landscape, empowering aspiring entrepreneurs and providing them with the resources, guidance, and mentorship needed to transform ideas into successful ventures. With this partnership, Awfar.com and Value Maker Studio (VMS) affirm their commitment to fostering innovation, promoting economic growth, and unlocking the immense potential of the Saudi market. Value Maker Studio (VMS) is proud to announce its new "Bridge Program," set to launch in January 2024, with applications opening in November 2023. This program is designed to empower tech startups in Egypt to seamlessly expand into the Saudi Arabian market. Leveraging its extensive experience, resources, and network, VMS aims to help entrepreneurs succeed, reduce risks, and offer them a range of support services,

including financial, technical, legal, HR, and recruitment. The comprehensive "Bridge Program" will consist of three days of intensive training and mentoring sessions, providing insights into the Saudi market, its investment landscape, identifying target audiences, understanding customer requirements, crafting compelling sales pitches, and addressing other crucial aspects to facilitate the expansion journey for Entrepreneurs. The VMS Bridge Program doesn't just boost growth; it also simplifies access to funding opportunities and enhances connections with a diverse group of investors and mentors within the Kingdom and the region. Program Partners include the Arab Academy for Science and Technology and Maritime Transport, the Egyptian Federation of Chambers of Commerce, the General Division for Digital and Technology Economy, Adventurers, Cash Cow, U Youth, and FALAK. Mr. Motaz Abuonq, the founder of VMS, expressed his enthusiasm for the program, stating, "The VMS Bridge Program represents a significant commitment to sponsoring and supporting startups. This initiative is a testament to our dedication to fostering growth, facilitating connections, and empowering companies to thrive as they expand into new markets. We are excited about the opportunities it will create for our partners and the positive impact it will have on the entrepreneurial ecosystem."

Cybernet and Nokia Claim Pakistan's First Commercial 600G DWDM Network

Fiber-to-the-home (FTTH) broadband provider Cybernet has partnered Nokia to deploy Pakistan's first commercial 600Gbps-per-wavelength DWDM network. A press release announced that the new fiber-optic network connects Cybernet's main metro sites and provides enhanced capacity needed to support growing consumer and enterprise demand for fast, high-quality broadband services across Pakistan. The companies' release stated that by leveraging Nokia's PSS 1830 optical transport platform, Cybernet can effectively scale its total network capacity to 28Tbps, serving broadband and enterprise customers across Pakistan. Cybernet implemented Nokia's ROADM architecture based on 'flexgrid' technology to optimize

and extend the reach of its optical network, while additional software management and control functions from Nokia's WaveSuite service enablement automation software will support Cybernet in further increasing operational efficiencies. 'Broadband and enterprise customers can also benefit from low latency, superior quality of services and an enhanced customer experience,' the statement declared. Furthermore, the partners also highlighted that by further strengthening its global footprint through the establishment of its international points of presence (PoPs) in MC-1 in Barka (Oman), MRS-2 in Marseille (France), SmartHub in Fujairah (UAE) and SG1 in Singapore, Cybernet is providing its global peering community members with its advanced IXP platform powered by the Nokia 7750 SR and 7250 IXR routers to meet both current and future needs. Cybernet offers internet, EVPN and MPLS-based services at its international PoPs. Cyber Internet Services, which operates under the Cybernet and StormFiber brands, is part of Pakistani conglomerate the Lakson Group, and is the nation's largest provider of FTTH services with nearly 367,000 subscriptions across over 20 cities at mid-2023.

Saudi Arabia Advances Transport Sector Through AI and Technological Innovations

In a sweeping move to revolutionize its transportation and logistics sector, Saudi Arabia is embracing technological advancements and artificial intelligence, asserted Saleh Al-Jasser, the Kingdom's Minister of Transport and Logistics. The minister's statements came during his address at the fifth Smart Transport, Infrastructure, and Logistics Exhibition and Conference for the Middle East and Africa held in Cairo. Minister Al-Jasser emphasized the significant strides Saudi Arabia is undertaking to enhance performance efficiency, support sustainable development, and bolster the economy through a series of structural reforms and institutional transformations. Central to this transformative agenda is the Kingdom's Vision 2030, which envisages Saudi Arabia becoming a global logistics hub that contributes to economic diversification while improving the living standards within its cities. The National Transport and Logistics Strategy, as explained by Al-Jasser, aims ambitiously to double the sector's GDP contribution and place Saudi Arabia among the top 10 countries in the Logistics Performance Index. Integral to this strategy is the increase in public transportation usage, exceeding 15 percent of total travel, and the reduction of carbon emissions by 2 percent per capita annually. Al-Jasser highlighted ambitious targets such as expanding airport capacity to accommodate over

330 million passengers yearly, boosting port capacity for 40 million containers, and elevating safety in transportation modalities. Achieving these objectives, he noted, hinges on integrating modern technologies, switching to alternative fuels, adopting eco-friendly vehicles, and promoting shared transportation modes. The Kingdom is also progressing towards integrating autonomous mobility technologies into its transport framework. Pioneering projects like NEOM and Red Sea Global are being developed with sustainable and automated transportation solutions in mind, including innovative options like air taxis, volocopters, and autonomous pods for personal and goods transit. Supporting these futuristic endeavors, The Helicopter Co., backed by the Public Investment Fund, is establishing a comprehensive rotorcraft industry, offering services ranging from construction to filmography and private charters. The conference, inaugurated by Egyptian Prime Minister Mostafa Madbouly, welcomed transport ministers from across the Arab world and featured over 300 specialized transport companies from approximately 50 countries, marking a milestone gathering for regional transportation dialogue and collaboration.

Positive Q3 at Du

United Arab Emirates (UAE) fixed and mobile operator Du has reported net profit of AED502.4 million (USD137 million) for the three months to 30 September 2023, up 57.7% year-on-year driven by rising service revenue and an increase in new subscriptions. Revenues were up 3.7% at AED3.29 billion, boosted by 5.7% growth for mobile services. EBITDA rose by 13.8% to AED1.48 billion and operating cash flow increased by 65.1% to AED956 million. The mobile subscription base was up 9.4% y-o-y at 8.1 million, boosted by a ninth consecutive quarter of post-paid net additions. Fixed broadband subscriptions continued their double-digit growth and reached 573,000 at end-September, up 12.4% annually.

IT Minister Underscores SIFC Initiatives to Revolutionize IT, Telecom in Pakistan

The Minister for Information Technology and Telecommunications Dr. Umar Saif highlighted the recent policy changes by the Special Investment Facilitation Council (SIFC) in Pakistan, aimed at supporting the IT and telecom sectors. Speaking to a high-level delegation led by his Malaysian counterpart Fahmi Fadzi in Dubai at the GITEX-23 sidelines meeting, Dr. Saif said that the State Bank of Pakistan (SBP) has authorized a 50% retention of IT export remittances in foreign currency (FCY) accounts. Policies have been implemented to ensure smooth and hassle-free cash flows for IT exporters through online banking and corporate debit cards, he added. These developments also encompass various initiatives aimed at simplifying Right of Way (ROW) charges, boosting infrastructure sharing, advancing the 5G spectrum, and enhancing IT export retention. Dr. Saif said the federal cabinet granted approval for an advisory Committee for Pakistan's 5G Spectrum auction a major step toward digital Pakistan. In a related context, the Minister Expand North Star, an international showcase of innovation and cultural exchange. The Pakistan Pavilion was thoughtfully designed to encapsulate the country's progress and potential, welcoming visitors with open arms. Moreover, the minister expressed Pakistan's intention to learn from Malaysia's innovative approach and policies regarding the rollout of 5G technology. "Malaysia has rolled out 5G at a lightning pace using a very innovative Spectrum Sharing policy. We will work with our Malaysian counterparts to learn about their innovative approach and policies" the minister said. The meeting encompassed crucial technology topics with the objective of strengthening collaboration between the two nations. During the meeting, Dr. Saif explored the realm of financial technology (Fintech) and touched upon Starlink, the satellite internet company, making inroads into Malaysia. The discussion extended to the potential implementation of LYNC, with a commitment to sharing experiences and knowledge. Dr. Saif drew attention to Pakistan's network coverage challenges, underscoring the importance of adopting best practices from the Malaysian Regulator. Both Ministers engaged in a dialogue regarding Pakistan's path to adopting 5G technology and the challenges impeding this transition. The Malaysian Minister pledged to share best practices to facilitate this transition. The meeting also featured a discussion on the International Telecommunication Union (ITU) and its potential benefits for both Pakistan and Malaysia in the technology sector. The meeting involved a commitment to enhance coordination and discussions in the forthcoming months, signifying the growing partnership between the two countries.

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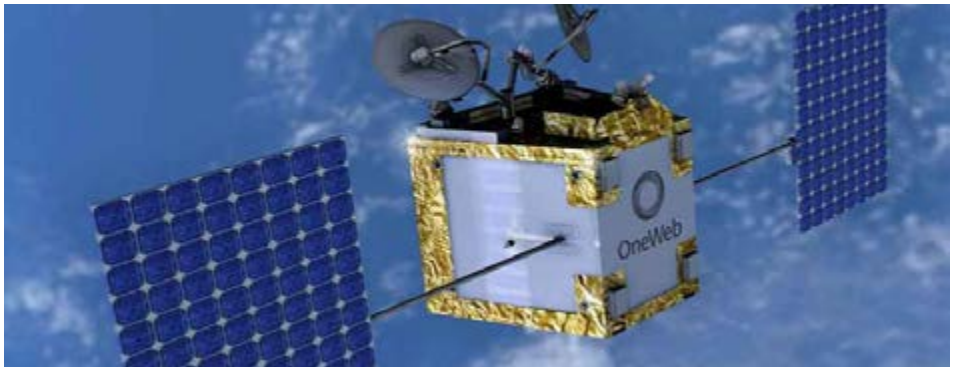
SATELLITE NEWS

Fiji Gives Starlink Green Light to Launch Satellite Internet

SpaceX subsidiary Starlink (Fiji) has been granted an operating license by the Telecommunications Authority of Fiji (TAF), alongside a spectrum license from the Ministry of Communications, allowing it to offer satellite internet services in the country. In a short statement, the government of Fiji said that using Low Earth Orbit (LEO) satellites to provide telecommunications services has come 'as a lifeline for geographically dispersed countries like Fiji'. Meanwhile, the deputy PM and Minister for Communications, Manoa Kamikamica, is quoted by local press as saying that the licensing of Starlink (Fiji) for commercial use is a 'game changer' to bridge the digital divide.

OneWeb Given Green Light for Satellite Broadband Service

Satellite communications provider Eutelsat OneWeb has been granted permission by the Indian National Space Promotion and Authorization Centre (IN-SPACe) to launch commercial satellite broadband services in India. In a statement from the Low Earth Orbit (LEO) operator, the group noted that its Indian subsidiary would be able to begin offering services as soon as it is allocated the necessary spectrum by the government, as the company already holds the necessary licenses from the Department of Telecommunications (DoT). OneWeb India has also been given in-principle approval to establish and operate two satellite gateways in Gujarat and Tamil Nadu. Commenting on the development, Cyril Dujardin, Eutelsat's Co-General Manager of Connectivity, was quoted as saying: 'We are pleased to have received these approvals from the space regulator that bring the country a significant step closer to providing high speed connectivity to even the most remote locations. Having completed our LEO constellation last year, we are perfectly placed to deliver this vital connectivity service to businesses across India.'



Telecoms Minister Confirms Armenian Aim to Join Starlink Network

Arka News cites an exclusive interview with the country's Minister of High Technologies Industry Robert Khachatryan as confirming that the government is in talks with SpaceX concerning plans to launch the latter's Starlink satellite broadband service. 'It can become an alternative means of communication for our country, which it is in many places. We have already started a dialogue on this issue, but I would not like to elaborate,' Khachatryan is quoted as saying. The US firm's Low Earth Orbit (LEO) satellites are designed to offer high speed, low latency broadband internet in remote and rural locations across the globe.

Mira Aerospace Delivers World's First 5G Connectivity from Stratosphere

Abu Dhabi-based Mira Aerospace said its ApusDuo solar aircraft has successfully conducted a 5G connectivity test, marking the world's first successful delivery of 5G connectivity from a fixed-wing HAPS (high altitude pseudo satellite) autonomous aircraft in the stratosphere. The demonstration was conducted in Rwandan airspace in collaboration with its partners – Bayanat, a provider of world-class AI-powered geospatial solutions, and Uavos, an expert in developing unmanned solutions. The 5G connectivity demonstration follows a previous stratospheric flight test conducted in Rwanda in June 2023, during which Mira Aerospace's ApusDuo carried a dummy version of the payload. The stratosphere-ready communications payload continuously delivered 5G connectivity for approximately 73 minutes in the stratosphere during ApusDuo's stratospheric flight, during which it reached a maximum altitude of 16.9 km. During the test, the stratosphere-ready 5G communications payload enabled a 5G Zoom video call, the first in the world. The test system was composed of a service link from the communications payload installed on ApusDuo in the stratosphere and a feeder link from a terrestrial 5G base station. Since the radio waves transmitted and received operated on the same frequencies as existing smartphones and devices, a regular 5G smartphone was used in the test.

Kazakhstan to Permit Starlink for General Users Next Year

Bagdat Musin, head of Kazakhstan's Ministry of Digital Development, Innovation & Aerospace Industry (MDAI), has said at a government briefing that legislation will be amended sometime in 2024 to permit the general usage of SpaceX's Starlink high speed satellite broadband service in the country, reports Profit.kz. Currently, Kazakh individuals are known to be illegally connecting user terminals to the Starlink service, with MDAI spokesperson Dias Tolegenov quoted as saying that authorities are pursuing users and sellers of such terminals to issue warnings and impose fines, whilst the MDAI is conducting negotiations with SpaceX to prevent the activation of Starlink terminals in Kazakhstan until appropriate changes can be made to the legislation. However, Minister Musin was vague on the timeframe for achieving legal permission, saying: 'I can't say in the first half of the year or in the second, because everything depends on the Mazhilis [lower house of parliament]. That is, first from our development of the model, then we will come to the Mazhilis and continue to discuss. If the Mazhilis supports it, it will be accepted. By the end of next year we will definitely resolve the issue.' The Kazakh government recently launched a pilot project for connecting schools with Starlink, with ten rural schools so far connected and 2,000 set to be linked up to the Low Earth Orbit (LEO)-based service within six months.

Starlink Satellite Internet Has Become Available in Georgia

SpaceX's Starlink satellite internet has launched in Georgia, SpaceX founder Elon Musk wrote on his page on the social network X (formerly Twitter), APA reports. Starlink Georgia was registered at the end of June 2022. In mid-July, the Georgian Communications Commission granted the company authorization to begin operating in the republic. Starlink is a global satellite communications system project. It was developed by SpaceX, and founded by Musk in 2002. The Starlink system is designed to provide Internet access to users around the world by deploying a large number of small devices weighing up to 500 kg in low-Earth orbit.

Starlink Angolan Launch Delayed to 3Q24

The expected launch window for SpaceX's Starlink satellite broadband service in Angola has been moved back from Q4 2023 to Q3 2024, according to a report by MenosFios, which also notes that Starlink has yet to gain requisite regulatory approval from the Angolan Institute of Communications (Instituto Angolano das Comunicacoes, INACOM). Starlink pre-registration is open to prospective Angolan users, with the Low Earth Orbit (LEO) satellite-based internet service expected to offer connection speeds of up to 220Mbps download and 25Mbps upload in remote regions and territorial waters of Angola.

Qualcomm Satellite Deal Crashes to Earth

Qualcomm terminated a satellite-to-phone partnership with Iridium less than a year after it being announced to much fanfare at CES, with the latter citing a lack of uptake for the technology from device makers. In a statement, Iridium revealed the partnership would end on 3 December, with Qualcomm the one to pull the plug. The satellite company added once its current pact ends, it will be free to directly engage with other chipmakers, smartphone OS developers and device makers. Qualcomm and Iridium made the arrangement during a time of increasing hype on direct-to-device satellite connectivity, with Apple unveiling the functionality in September 2022. The companies were collaborating on integrating satellite messaging and emergency service functionality into Qualcomm's Snapdragon platforms. Iridium explained the two had successfully developed and demonstrated the technology, but "notwithstanding this technical success, smartphone manufacturers have not included the technology in their devices" citing that as the reason Qualcomm terminated the contract. CCS Insight senior analyst Luke Pearce noted the move should not be seen as a knock for the satellite-to-phone market. "Instead, it's a clear acknowledgment that the 3GPP NTN Standards-based route will be the preferable way to go for most, with Iridium's existing LEO constellation being based on proprietary tech being its downfall."

For his part, Iridium CEO Matt Desch also remained bullish on the prospects of direct-to-device technology, stating that while he is "disappointed that this partnership didn't bear immediate fruit, we believe the direction of the industry is clear toward increased satellite connectivity in consumer devices". "Led by Apple today, MNOs and device manufacturers still plan, over time, to provide their customers with expanded coverage and new satellite-based features, and our global coverage and regulatory certainty make us well suited to be a key player in this emerging market. User experience will be critical to their success, and we've proven that we can provide a reliable, global capability to mobile users."

IFT Publishes New Interconnection Rates For 1 January 2024

Mexico's Federal Telecommunications Institute (Instituto Federal de Telecomunicaciones, IFT) has published a new set of mobile termination rates (MTRs) and fixed termination rates (FTRs) that will take effect on 1 January 2024. As in previous years, America Movil (AM)-backed Telmex and Telcel have Agente Economico Preponderante (AEP, or preponderant economic agent) status, and have their termination rates reduced accordingly. From 1 January 2024 Telcel's MTR will decrease to MXN0.0139 (USD0.00079) per minute, from MXN0.0143. The country's other mobile operators will see their MTR cut from MXN0.0461 per minute to MXN0.0450. Meanwhile, Telmex will see its FTR drop to MXN0.0033 per minute, while Mexico's other telcos will face a charge of MXN0.0028. The new termination rates will remain in force until 31 December 2024.

Intellian and Inmarsat Sign Agreement for Development of Next Generation Maritime Safety Terminal

Intellian Technologies, Inc., the leading global technology and solutions provider for satellite communications and Inmarsat Maritime, a Viasat business, have today signed a Memorandum of Understanding (MOU) for the development of a next generation GMDSS safety terminal, designed for operation over Inmarsat's ELERA L-band network. The new safety terminals will become the standard Inmarsat Maritime product for the next generation Fleet Safety service and will fulfil the requirements and performance standards of the International Maritime Organization (IMO), as part of a range of maritime SOLAS approved ship borne equipment including Global Maritime Distress and Safety System (GMDSS), Long-Range Identification and Tracking (LRIT) system and Ship Security Alert System (SSAS). Intellian's GMDSS terminal will help to significantly enhance the safety of lives for the 1.9 million seafarers at sea around the world, and will be one the most technological advancements in safety services since the introduction of Inmarsat-C in 1991. The new safety terminal will allow a digital era of safety services to improve both preventative and reactive communications. In addition to offering reliable access to Fleet Safety services, which includes an innovative Maritime Safety Information interface, the terminal features a Distress Chat function among its enhanced capabilities. This function automatically alerts the nearest Maritime Rescue Coordination Centre (MRCC) in case of an emergency on board, ensuring swift and coordinated response efforts. It also notifies nearby vessels, creating a network of support during critical situations. Eric Sung, CEO of Intellian Technologies Inc., said: "We're particularly proud of the development of this new GMDSS terminal and to have been entrusted by Inmarsat to develop this major innovation to their maritime safety portfolio. It's a testament to our great partnership with Inmarsat, developing solutions that are innovative and reliable for customers all over the world. Our next-generation terminal that will vastly improve the safety of lives at sea for the 1.9 million seafarers and over 20 million passengers annually protected by the International Maritime Organization's policies. For our customers from shipyards to those going through a system upgrade, they'll be able to have a complete Intellian solution on board." Peter Broadhurst, Senior Vice President Safety & Regulatory at Inmarsat Maritime, said: "Intellian has been a trusted partner of Inmarsat in advancing maritime communications, and we are excited to collaborate with them on the new Inmarsat Fleet Safety GMDSS terminal. This development represents a significant milestone in enhancing the safety of seafarers & passengers worldwide, and it underscores Inmarsat's commitment to providing innovative and reliable solutions for the maritime industry and protecting lives at sea."

Intelsat, AMN to Deploy 1,340 Rural Sites Across Three New Markets

Satellite connectivity and mobile infrastructure providers Intelsat and Africa Mobile Networks (AMN) are extending their partnership to deploy more than 1,340 rural base stations across three new African markets: Madagascar, Rwanda and the Democratic Republic of Congo (DRC). The sites will combine AMN's solar-powered tower solution with Intelsat's multi-satellite African coverage to extend mobile services to unserved or underserved communities in remote or isolated locations. The pair note that the use of satellite connectivity for backhaul enables towers to be installed in areas where the location or terrain would make fibre or microwave backhaul solutions untenable. Intelsat and AMN claim to have deployed more than 3,000 rural base stations across Africa since 2018, covering more than eight million people. AMN notes that its largest network is in Nigeria, where it has installed more than 1,350 sites – including 450 that have been built since June this year – covering 3.5 million people in previously unconnected communities.

Thuraya, YahClick and G4T Partner to Boost Satellite-Enabled Connectivity in South Sudan

Al Yah Satellite Communications Company PJSC has announced that its mobility arm, Thuraya Telecommunications Company, and its satellite broadband solutions provider, YahClick have signed a new service partnership to launch their mobility and data services in South Sudan, in cooperation with the South Sudanese start-up Gate for Technologies (G4T). Through this partnership, Thuraya and YahClick will provide several high-growth sectors in South Sudan with satellite-enabled connectivity solutions designed for bespoke requirements, constituting a significant step forward in the national efforts to re-build the AfAfrican country. Under the agreement, Thuraya's satellite technology will connect remote communities and support the government in its efforts to develop the nation's telecommunications infrastructure and enable e-government services. Yahsat will also collaborate with humanitarian agencies based in the country by providing them with the essential connectivity to support underserved areas. The new service agreement will leverage G4T market presence and partnerships with government entities, non-governmental organizations (NGOs), mobile network operators (MNOs), telemedicine, education and oil and gas sectors. The launch of Thuraya and YahClick's services took place in Juba, in the presence of government officials from South Sudan, Ammar Al Nuaimi, Thuraya's VP of Sales in the Middle East and Africa, and Sami Hagana Ali, Thuraya's AVP for Africa region. Commenting on the partnership, Ali Al Hashemi, Group Chief Executive Officer of Yahsat, said: "Yahsat is proud to have a long and successful track record of nearly two decades in Africa, through our mobility arm, Thuraya and our broadband solutions provider, Yahclick. The new service partner agreement with Gate for Technologies reinforces our strong commitment to South Sudan and the African continent. As the country seeks to re-build critical sectors of the economy, consistent and reliable connectivity will increasingly play an integral role in furthering socio-economic development. We look forward to deepening our presence and expanding our offerings

through this partnership with G4T. Together, we can leverage our combined expertise and in-depth understanding for the benefit of the South Sudanese economy." Nhial Deng Nhial, Managing Director of Gate for Technologies added: "It is a great honor and privilege for us, and G4T in particular and the entire South Sudan, to sign the Service Partner Agreement with Thuraya, which marks the participation of a cutting-edge technology provider like Yahsat in the growth and development of the nascent South Sudanese telecoms sector. We are unlocking opportunities to fast track the digital transformation of the whole nation."

China Launches Satellite to Test Satellite Internet Technologies

China has sent a new test satellite into space from the Xichang Satellite Launch Center in southwest China's Sichuan Province. The satellite was launched aboard a Long March-2D carrier rocket at 6 p.m. (Beijing Time) and has entered the planned orbit. It will be used to test satellite internet technologies. The launch was the 498th flight mission of the Long March carrier rocket series.

Amazon Wants to Deliver Satellite-Based Broadband to India

Amazon is seeking regulatory approval from the Indian National Space Promotion and Authorization Center, or IN-SPACe, to launch its Project Kuiper satellite-based broadband services in India, according to The Economic Times. "Project Kuiper will bring fast, affordable broadband to unserved and underserved communities around the world, including rural and remote places in India," an Amazon spokesperson confirmed to Cord Cutters News via email. Satellite-based broadband services are seen as a way to augmented more traditional internet offerings and provide coverage in hard to reach places. There's a burgeoning space race going on between Jeff Bezos's Amazon and Blue Origin rocket company and Elon Musk's SpaceX, which already has a constellation of roughly 5,000 satellites offering Starlink internet services around the world. Amazon's plans to bring satellite-based broadband to India would also put the company in competition with providers like OneWeb, Tata Grou's Nelco, and Jio Satellite. The e-commerce giant could also apply to the Department of Telecommunications for a global mobile personal communication by satellite services, or GMPCS, license. A GMPCS license allows a company to provide satellite communication services in qualifying areas. Since the India Space Policy 2023 opened up the space sector to allow low- and medium-earth orbit satellite operators to provide wireless broadband services, more private and foreign companies have expressed interest in the domain. "This is a long-term initiative for Amazon, and we look forward to working with the Indian government and local partners to connect customers and communities across the country," Amazon said in the email. Amazon has big plans for Project Kuiper. It's expected to provide home internet services as well as connectivity for businesses and hospitals. Last week, Amazon sent its first test satellite into space. The launch will determine whether the company will begin mass producing the satellites for a 2024 launch. Amazon plans to send over 3,000 satellites into low-earth orbit to build out its broadband offerings. Project Kuiper, like SpaceX's Starlink service, aims to offer high speed internet from space. This means Amazon's service could potentially average close to Starlink's 90.55 Mbps down and 9.33 Mpbs up with a latency of 43. Amazon is reportedly hoping to be a more affordable option at under $100 a month.

Netherlands and Inmarsat Agree in Principle to Move Satellite Service to Clear 3.5GHz 5G Band

The Dutch Ministry of Economic Affairs & Climate Policy (MEACP) has reached a long-awaited agreement in principle with satellite operator Inmarsat to move its international communications ground station in Burum, Netherlands, to Greece to implement the government's plan to free up the 3.5GHz frequency band for national mobile usage, Nos.nl reports. However, there are separate ongoing lawsuits against the country's 5G auction plans from plaintiffs including Amsterdam's Schiphol Airport and the Port of Rotterdam Authority. Court hearings regarding the 5G auction framework which began on 11 October 2023 in Rotterdam also involve the main Dutch mobile network operators KPN, VodafoneZiggo and Odido. The Netherlands' national 5G 3.5GHz auction plans were derailed in June 2021 when Rotterdam District Court suspended an amendment to the National Frequency Plan via which the MEACP intended to free up the 3.5GHz band for 5G from September 2022, due to an appeal by Inmarsat. The judge's decision noted that Inmarsat used the 3.5GHz band via a satellite ground station in Burum providing emergency/safety communications for shipping and aviation on behalf of the international community, and argued that the Ministry should have mapped out how emergency communications could be safeguarded, taking into account international treaties. The government subsequently set the target of making 5G 3.5GHz frequencies available via auction by 1 December 2023, recommending that Inmarsat relocates its services in the band to a location in Greece. The auction should make 1×300MHz of 3.5GHz frequencies available for nationwide mobile usage, although Inmarsat would be entitled to 1×80MHz until its Greek site is operational. According to an Inmarsat spokesperson quoted on 11 October, the satellite company had previously been wary of the risk of needing to move from its planned Greek site within a few years, but following discussions with the MEACP and the Greek telecoms authorities it is now confident of the new operation lasting a decade, and therefore has withdrawn its objection to the Netherlands' 3.5GHz 5G auction plan while targeting a 1 February 2024 launch for its Greek satellite base. Furthermore, according to a report on news site Pledgetimes.com, Inmarsat reached an in-principal agreement with the MEACP on financial compensation of an as-yet undisclosed amount, and the move now just requires a formal contract to be signed; the report quoted outgoing Minister of Economic Affairs & Climate Micky Adriaansens reiterating last weekend that the 3.5GHz auction will not take place until the first quarter of 2024 at the earliest.

Senegal's First Satellite Launch Planned for This Year

According to a number of press reports, Senegal is now preparing for the launch of its first satellite, initially scheduled for 2021 and postponed to 2023 due to the Covid-19 pandemic. The Ecofin news agency says that late last week the country's Ministry of Higher Education, Research, and Innovation (MESRI) announced that the satellite would be delivered on 10 November. The launch date will then be announced by the government. The construction of this satellite, which will be called GAINDESAT, results from a partnership agreement signed with the Centre Spatial Universitaire de Montpellier (CSUM). CSUM is a leading European center dedicated to bringing together resources and skills in the engineering, production, operation, testing and application of nanosatellites. It offered its assistance to the Senegalese engineers and technicians who built GAINDESAT. This initiative is part of the implementation of Senegal's national space program called SENSAT, which aims to aid the country's socio-economic development through the design and operation of space tools. SENSAT and CSUM will partner with the digital platform RIDE!space to integrate the satellite into Vigoride, an orbital transfer vehicle (OTV) supplied by Momentus, a company that offers space infrastructure and transportation services. Last May the Senegalese government announced that it was finalizing the construction of a space control center in partnership with France's Centre national d'études spatiales and aerospace company ArianeGroup. The center will be used to prepare the satellite for launch. With the help of GAINDESAT Senegal aims to enhance its ability to address critical challenges such as disaster management and agricultural productivity by harnessing the potential of satellite technology and artificial intelligence.

Starlink's Satellite Broadband Service Coming to 4G Smartphones in 2025

The Elon Musk-founded firm operates a constellation of over 3,000 satellites in low-Earth orbit that can provide a broadband data service to devices across the globe, including in areas that aren't served by traditional radio towers. The newly-announced 'Direct to Cell' satellite phone service will launch next year ahead of plans to make it compatible with current 4G handsets by 2025. Direct to Cell satellites will initially be launched on Falcon 9 rockets flown by SpaceX, which is also owned by Elon Musk, and then Starship, its upcoming super heavy lift launch vehicle. Once in orbit, the satellites will connect over laser backhaul to the Starlink constellation to provide global connectivity. Peter Kibutu, advanced technology lead at satellite consultancy TTP, said: "Starlink continues to set ambitious targets for its satellite network; however, its plans to deliver a direct-to-cell service require scrutiny. Offering connectivity supported by unmodified 4G handsets might only result in low-bandwidth data and voice services, falling short of contemporary data demands and user experience. "Starlink has made it clear that it will continue to use its own proprietary technology, which, while providing it with speed to market, could present roadblocks in years to come as it struggles to support high-performance connectivity services and use cases that will be readily available via other satellite operator's 5G NTN networks." Shipping firm Maersk has also announced that more than 330 of its container vessels will have Starlink's traditional service installed, enabling high-speed internet with speeds over 200Mbps. The agreement follows a pilot scheme where crew members on more than 30 Maersk vessels had the opportunity to test the technology. Besides benefits such as allowing crew members to keep in touch with family through video calls and other forms of communication, the firm said it would facilitate cost-saving measures by moving certain applications into the cloud and improving support for remote inspections of the vessels. Leonardo Sonzio, Maersk's head of fleet management, said: "We are excited to announce our journey with Starlink to provide state-of-the-art connectivity to our sea-going colleagues. The highspeed connectivity will enable our seagoing colleagues to stay connected with their loved ones while at sea. It will also propel the expansion of seamless cloud solutions, enabling our vision to digitize our vessel operations."

China Lobs Tech Demo into Orbit for People's Republic Version of Starlink

China has launched an Internet Technology test satellite from the Xichang Satellite Launch Center in China's Sichuan Province. The Long March 2D rocket launched at 1800 Beijing Time (1000 UTC) on November 23, marking the 498th mission of the Long March carrier rocket series. It is China's 54th rocket launch this year, according to China Daily. China's various media mouthpieces said the payload consisted of a single satellite, and its description suggests the purpose is for testing technology to be used for the nation's version of mega-constellations, such as Starlink and the soon-to-be-launched Project Kuiper. Although the dimensions of the satellite remain shrouded in mystery – China only confirmed the mission once the payload was successfully launched – the Long March 2D is capable of sending a 1.3-ton spacecraft into a Sun-synchronous orbit with an altitude of 700km. Another payload, also dubbed the "Space-based Internet Technology Demonstrator," was launched on a Long March 2C from the Jiuquan Satellite Launch Center on July 9. As with yesterday's launch, the payload's purpose was to "carry out test missions for satellite internet technologies." While Chinese authorities claimed a single satellite was launched on the July 9 mission, two objects have since been cataloged. Although not confirmed by authorities, it's likely that the technology being tested is for China's mega-constellation project, named Guowang. Guowang is planned to consist of thousands of satellites in low Earth orbit to facilitate telecommunication and internet coverage. It is, however, taking a while to set up. According to Shanghai Securities News, in 2021 Bao Weimin, a member of the National Committee of the Chinese People's Political Consultative Conference and director of the Science and Technology Committee of the Aerospace Science and Technology Group, said: "We are planning and developing space internet satellites, and have launched test satellites." More than two years later, it appears testing is still under way. However, it means astronomers will soon have even more objects in the sky to worry about should Guowang proceed as planned.

Jio Showcases Satellite Service, Claims Over a Million 5G Sites

Reliance Jio Infocomm (Jio) has successfully demonstrated what it claims to be India's first satellite-based gigabit broadband service. The platform – named 'JioSpaceFiber' – enables Jio to provide high speed broadband services to 'previously inaccessible geographies' in India, and is currently available in four locations: Gir (Gujarat), Korba (Chhattisgarh), Nabarangpur (Odisha) and Jorhat (Assam). The satellite system also supports additional capacity for mobile backhaul, 'enhancing the availability and scale' of Jio's 5G network. Jio notes that it has partnered with SES to provide the service, granting it access to the latter's medium earth orbit (MEO) satellite constellation. Meanwhile, Jio has also confirmed that it has deployed over one million 5G cell sites nationwide – including over 150,000 using both the 700MHz and 3500MHz bands – covering around 8,000 cities and towns. The operator also claimed that its 4G-enabled 'JioBharat' handsets had gained 'substantial market share in the non-smartphone segment' since its launch in July this year. The JioBharat initiative aims to encourage the migration of the roughly 250 million Indians using devices restricted to 2G networks to 4G-enabled handsets.

Yahsat Contracted Future Revenues Surge to Record US$6.9 Billion

Al Yah Satellite Communications Company PJSC (Yahsat), the UAE's flagship satellite solutions provider, has seen its contracted future revenues surge to a record AED25.3 billion ($6.9 billion) or 15.7 times the last twelve-month revenues. This was due to the award of Yahsat's largest ever government mandate valued at AED18.7 billion. Revenue and normalized EBITDA grew 3% for the first nine months (9M) of the year reached AED1.2 billion and AED713 million, respectively. Net income more than doubled whilst normalized net Income was in line versus the prior year period at AED274 million. Third quarter Q3 revenues grew 8% versus the previous year, which is the second highest on record. Underpinning this impressive performance were historically strong results in Mobility Solutions, the Thuraya business providing mobile satellite services using L-band spectrum, which recorded revenue growth for the nine-month period of 22% and third quarter growth of 81% versus the prior year, driven by higher equipment sales and service revenues. Meanwhile, Infrastructure, the group's largest segment providing communications capacity to the UAE Government by means of an index-linked long-term contract, continued to grow its year-on-year revenues by 1%. Managed Solutions, the group's second largest segment, providing complete value-added satellite communications solutions, primarily to the UAE Government and related entities, reported slightly lower revenues mainly due to an exceptionally strong comparative period although remains well positioned to deliver full year revenues in line, or better, than prior year. Data Solutions, offering satellite-based broadband data solutions, saw marginally lower revenues from fewer equipment sales but recorded a significant improvement in underlying operating profitability. 9M witnessed strong cash generation with discretionary free cash flow of AED627 million, 6% lower versus prior year due to a reimbursement of advance payments to the UAE Government (approx $75 million per annum starting 2023) previously received during the construction phase of the AY1 and AY2 satellites. This was largely offset by improved collection of receivables. The company has historically strong balance sheet with record negative net debt of more than AED583 million, total available liquidity of AED2.6 billion and long-term visibility of future cash flows up to 2043, supporting Yahsat's future investment in organic growth (Al Yah 4 and Al Yah 5) and opportunistic acquisitions, without impacting its attractive progressive dividend policy. Yahsat is on track to grow full year 2023 dividend by at least 2% to 16.46 fils per share or AED402 million based on the last closing share price, this continues to imply an annualized dividend yield of well over 6%, amongst the highest currently offered by UAE listed stocks. Guidance for full year revenue, EBITDA, and cash capex and investments remain unchanged, whilst guidance for discretionary free cash flow is increased to a range of AED514-588 million from AED477-550 million. Ali Al Hashemi, Group Chief Executive Officer of Yahsat, commented: "The third quarter has been one of several historic achievements which reinforce the company's future growth trajectory. Our reported revenue growth for the nine-month period underpinned by one of the strongest third quarters on record has resulted in improved financial guidance for 2023 and means that we are well positioned to record our strongest ever performance for the full year. Our financial position with record low leverage has never been stronger and continues to support our attractive progressive dividend policy. The construction of the Thuraya-4 NGS satellite remains on track for launch in 2024 and entry into service in H1 2025, with new advanced capabilities that will allow us to offer additional applications to our customers. "Our largest ever contract award during the quarter – an AED18.7 billion satellite capacity and managed services mandate from the UAE Government that includes the procurement of two new satellites, Al Yah 4 and Al Yah 5, has propelled our contracted future revenues to an all-time high and will support our core government business going forward whilst securing significant predictable cashflows all the way out to 2043. "This is a very exciting time for Yahsat. These achievements continue to differentiate our investment case amongst regionally-listed peers and within the global satellite industry, which continues to witness significant transformation. We remain in a strong position to take advantage of value accretive opportunities, underpinned by our unique backlog of future revenues and our historically strong balance sheet."

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WHOLESALE NEWS

Togo and Benin Sign Mutual Roaming Agreement Under ECOWAS Regulations; International Call Rates Also Lowered

Benin and Togo have signed a bilateral memorandum of understanding (MoU) on mutual free international mobile network roaming between the two countries under the Economic Community of West African States (ECOWAS) Roaming Regulations. Agence Ecofin reports that the Beninese Authority for Regulation of Electronic Communications and Post (l'Autorite de Regulation des Communications Electroniques et de la Poste, ARCEP) and its regulatory counterpart ARCEP Togo inked the MoU on 18 October 2023 and scheduled its implementation for 1 January 2024. The initiative complies with Regulation No. C/REG.21/12/17 (2017) for roaming on public mobile networks within ECOWAS states. TogoFirst reports that the MoU enables Togolese and Beninese mobile users travelling between the neighboring countries to enjoy the same rates as locally-registered mobile network subscribers for outgoing calls and messages for 30 days, during which period incoming calls and texts are free. Additionally, the MoU caps mobile internet roaming service rates, which will be set at a maximum XOF2.2 (USD0.0035) per MB for Togolese residents visiting Benin, compared with existing rates of up to XOF8,000/MB – potentially making roaming data 3,600 times cheaper.

Furthermore, the two countries agreed to significantly lower the rates for international calls to/from Togo/Benin: from 1 January these will be capped at XOF90 per minute, regardless of whether calling from the user's home country network or whilst roaming. TogoFirst notes that the existing per-minute rate for a Togo-to-Benin call from the user's home network is CFA225, while a minute's call to Togo for a Togolese resident visiting Benin currently costs XOF1,393. In July this year Ghana and Cote d'Ivoire launched mutual roaming without surcharges via the ECOWAS regulations, while Togo is also in the process of finalizing a similar arrangement with Ghana under the ECOWAS framework.

FibreConnect Launches Wholesale Networks to Serve Italian Business Sector

Italian wholesale network operator FibreConnect has launched its first fiber-to-the-premises (FTTP) infrastructure which will be used by third-party providers to serve businesses in industrial zones across the country. Equipment for the rollout was provided by Tejas Networks. Renzo Ravaglia, Executive Chairman and CEO of FibreConnect, said: 'FibreConnect is thrilled to partner with Tejas Networks on this transformative network rollout that seeks to bridge the digital divide for small and medium businesses in Italy and extend the benefits of high speed connectivity to unserved businesses and industries across the country through its ISP partners.'

Ireland's Virgin Media and Sky Ink 'Landmark' Wholesale Deal

Virgin Media Ireland and Sky Ireland have announced the signing of a wholesale network access deal which they claim will 'significantly enhance' the fixed broadband services available to Sky's customers across the country. Under the partnership Sky will utilize Virgin Media's fixed broadband infrastructure, which currently passes more than one million premises across Ireland. Commenting on the deal, Virgin Media Ireland CEO Tony Hanway said: 'We welcome Sky as a wholesale network partner as we continue our network expansion nationally, bringing ultrafast fiber connectivity to over one million homes by the end of 2025.' JD Buckly, Sky Ireland CEO, added: 'This partnership with Virgin Media Ireland allows us to offer our customers even more choice when it comes to full fiber broadband. Sky now has partnerships with every full fiber broadband provider in Ireland … This new partnership highlights our shared commitment to provide Irish consumers with a wider choice of high-quality services and the best broadband experience.'

Sky Brazil Inks FTTH Wholesale Deal With I-Systems Covering 27 Cities

Sky Brasil Servicos (Sky Brazil) has signed a wholesale agreement with I-Systems – the fiber-optic JV between TIM Brasil and IHS – to gain access to its fiber-to-the-home (FTTH) infrastructure in 27 cities, including Brasilia and the metropolitan region of Sao Paulo. Sky, which already offers 'Sky Fibra'-branded services via wholesale pacts with FiBrasil and American Tower, stated: 'This is Sky's biggest expansion in the Brazilian fiber access market, as these 27 new cities covered by the I-Systems network cover a population of more than 40 million people.'

Dialog Expands 5G Roaming Over 50 Countries with 100 Partners

Dialog Axiata PLC, the first telecommunications service provider in the South Asian region to demonstrate 5G capabilities in 2018, announced the expansion of its 5G roaming network, now encompassing an impressive 50+ countries through collaboration with over 100 esteemed partners. This development empowers Dialog customers equipped with 5G-compatible devices to experience blazing-fast data speeds of up to 1 Gbps during their international travels. Leveraging Dialog's robust network partnerships, 5G outbound roaming promises an unparalleled mobile experience, ensuring seamless connectivity and high-speed data access across the globe. Dialog, has the widest 4G roaming network in South Asia along with world-wide coverage in over 160 countries with 400+ partners, and will continue to expand the 5G roaming footprint providing a world-class data roaming experience to its subscribers. In addition to its 5G Roaming services, Dialog customers can also experience the power of 5G on Sri Lanka's largest 5G trial network, spanning over 70 locations across the country, including Colombo and several key cities, as listed on www.dialog.lk/5g This announcement follows a range of 5G milestones and firsts in South Asia and Sri Lanka, including enabling 5G for Apple iPhone Users for the first time in Sri Lanka, the deployment of the region's first 5G trial network, the first 5G Standalone (5G SA) network trial, and the first standards-based 5G fixed-wireless pilot transmission in December 2018. Dialog remains committed to pioneering technological advancements in the nation and the region in line with its brand promise of delivering 'The Future. Today.

Nkom Proposes Regulation of Wholesale Mobile Market for Three More Years

Norway's National Communications Authority (Nasjonal kommunikasjonsmyndighet, Nkom) has confirmed its intention to continue regulating Market 15 (wholesale market for access and call origination on mobile networks) for another three-year period. Having last issued a regulatory decision regarding Market 15 back in May 2020, Nkom has said it has once again found Telenor Norge to have significant market power (SMP) in the segment, and as such will require it to provide access to its mobile network to MVNOs on non-discriminatory terms. Further, as part of the regulatory proposal Nkom has included a new resolution 'that means [MVNOs] themselves must take more responsibility for negotiations with network owners about the terms of the agreement'. Commenting on that element of the proposed legislation, Kamilla Sharma, department director for market and services at Nkom, said: 'Nkom will provide a regulatory safety net that ensures that challengers do not have to accept unreasonable terms or prices, but at the same time allows for the parties to be able to negotiate individual terms of agreement to a greater extent.' Nkom is now seeking feedback on its proposed regulation by a deadline of 27 October 2023.

Kenya Sets New Termination Rate to Apply from March Next Year

The Communications Authority of Kenya (CA) has published Determination No. 4 of 2023, which establishes a new fixed and mobile termination rate (FTR and MTR) that will apply from 1 March 2024. From that date the rate will drop from the current level of KES0.58 (USD0.0038) per minute to KES0.41 for a period of two years, while the current SMS termination rate of KES0.05 per message will remain unchanged. The decision follows the conclusion of a 'National Roaming, Telecommunications Tower Sharing and Termination Rates Network Cost Study' carried out last year. In a press release, the CA said the new rate is informed by the prevailing economic environment, ICT market dynamics and the need to strike a balance between the promotion of investment and the protection of consumers. It added that the decision will have 'positive outcomes for both the consumers and operators; consumers will now enjoy access to a variety of affordable services across networks while operators will have more price flexibility in developing more affordable products.

Polish Wholesale Fiber Operator Boasts 400,000 Subscriptions

Swiatlowod Inwestycje, the Polish wholesale fiber-optic network operator co-owned by Orange Poland and Netherlands-based investment fund APG, has revealed that it has 400,000 active subscriptions across its infrastructure, according to a report from Telko.in. Third-party service providers who use its networks include Orange, Play, Netia, Vectra, T-Mobile, Plus and Inea. The Swiatlowod Inwestycje venture aims to have fiber-to-the-home (FTTH) networks passing 2.4 million households by mid-2025.

Togo and Ghana Sign Mutual Roaming Agreement

Togo and Ghana have signed a bilateral memorandum of understanding (MoU) on mutual free international mobile network roaming between the two countries under the Economic Community of West African States (ECOWAS) Roaming Regulations. Togo's Regulatory Authority for Electronic Communications and Posts (ARCEP) and Ghana's National Communications Authority (NCA) inked the MoU on 1 November 2023 and scheduled its implementation for 1 March 2024. The initiative complies with Regulation No. C/REG.21/12/17 (2017) for roaming on public mobile networks within ECOWAS states. The abolition of roaming charges will result in a very significant reduction in prices, the Togolese regulator said in a press release. The cost of outgoing calls will fall to XOF8.67 (USD0.14) per minute, compared with the XOF279 currently charged by Togocom and XOF550 by Moov Africa Togo, while incoming calls and texts will be free during the first 30 consecutive days. Additionally, the MoU caps mobile internet roaming service rates, which will be set at a maximum of XOF1.6 per MB, compared with existing rates of up to XOF8,400.

Operators Call for Cap to Revenue Charge for 5G Lift

Indonesia operators partnered with the Ministry of Communication and Informatics (MCI) to set up a task force to deliver new ideas and incentives to accelerate 5G deployment. The task force is aiming to create a strategy to 'balance technical, technological and financial issues'. Specifically targeting financial red tape surrounding the Non-Tax State Revenue (PNBP) derived from the 5G frequencies that will be allocated to MNOs. In the current framework, operators include spectrum PNBP payments as 'regulatory charges' which equates to around 11% to 12% of annual revenue (14%-15% if there are additional managed frequencies). MNOs argued that to maintain profit this charge needs to be capped at 10% or below, which is being requested in the MCI's 'Draft Ministerial Regulation (RPM) concerning the Use of Radio Spectrum in the 700MHz and 26GHz Frequency Bands'. The ministry is reportedly freeing up 90MHz of 'digital dividend' spectrum in the 700MHz band that was previously used by analogue broadcasting. Meanwhile, the 26GHz frequency band is currently not in use and can be tapped into for mobile broadband.

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TECHNOLOGY NEWS

The Internet Society partners with the Global Cyber Alliance (GCA) on achieving global routing security through MANRS

The Internet Society has partnered with the Global Cyber Alliance (GCA), an international nonprofit specializing in addressing cybersecurity challenges at scale by mobilizing stakeholders toward collective action. As part of this partnership, the GCA will take on the functions of the MANRS secretariat and operations, while the Internet Society will maintain significant funding, advocacy, and training functions over the next five years. With this partnership, MANRS will continue to achieve greater heights and be further established as the globally recognized benchmark for global routing security. In 2014, the Internet Society recognized the industry's willingness for collaborative agreement on best practices for routing security and helped initial participants to capture and share those practices in what became MANRS. Since then, the Internet Society has advocated globally for MANRS uptake, encouraged industry collaboration, supported the evolution of the norms, and evolved to become the secretariat of MANRS. Fast forward a decade, and MANRS has grown from nine original operators to a community of more than 1,000 participants ranging from small enterprise networks to Tier-1 transit providers, from IXPs of various sizes to content delivery network (CDN) and cloud providers publicly professing their commitment to the MANRS requirements. MANRS is now globally recognized as a beacon for securing global routing. As MANRS matured, so did the community-led governance model with the establishment of the community-elected Steering Committee. The Internet Society has proudly served as the secretariat, in addition to supporting the initiative with both financial and staff resources as well as operations support to ensure MANRS' growth. In 2019 the MANRS Observatory, a conformance measurement tool for routing security, was launched. Since then, many new features have been added to the MANRS Observatory, such as alerts and monthly MANRS readiness reports. Growth also happened through capacity building, and over the years, thousands of network engineers have gone through online courses, virtual labs, and on-site workshops. In 2020, the Internet Society, together with the MANRS community, launched the Mentors and Ambassadors program promoting routing security in the areas of research, policy, and training. Now it's in its fourth year with three Mentors and nine Ambassadors from across the globe. Today, MANRS has more than one thousand participating operators across three programs, as well as six network equipment vendors. The initiative has been a tremendous success, but the task of supporting MANRS has grown well beyond the scope of what was a startup initiative 10 years ago. This partnership is an important evolution of a successful initiative that the Internet Society launched, incubated, and nurtured. GCA is honored and excited to step into this role and provide the basis for the long-term sustainability and evolution of MANRS. Routing security is one of the focus areas of GCA, and the Internet Society and GCA have been collaborating around MANRS since 2021 with excellent results. GCA surveyed network operators to learn more about the state of routing security implementation, the level of concern within network operations and business decision-making, and plans for the next steps. The Internet Society is dedicated to improving routing security and ensuring the best future for MANRS. Over the next five years, the Internet Society will focus on funding and support through training and global advocacy activities, while GCA will provide the secretariat function and operate the MANRS Observatory. GCA is uniquely placed to lead the next evolution of MANRS as its focus on building communities to collectively drive action towards addressing cybersecurity challenges at scale allows it to step into this role and provide the best future home for the operational growth MANRS is experiencing. GCA is committed to maintaining the vision of MANRS and continuing to expand its global impact. With this partnership, MANRS will continue to achieve greater heights and be further established as the globally recognized benchmark for global routing security.

FCC to Investigate AI's Impact on Nuisance Calls and Texts

Federal Communications Commission (FCC) Chairwoman Jessica Rosenworcel unveiled plans today to launch a comprehensive inquiry into the impact of AI on the proliferation of illegal and unwanted robocalls and texts. Speaking at an event in collaboration with AARP, Rosenworcel announced her intention to present a proposed inquiry to her colleagues. If approved at the Commission's public open meeting on November 15, 2023, the inquiry would mark a pivotal moment in understanding how AI technologies can be harnessed to protect consumers under the Telephone Consumer Protection Act (TCPA). Emphasizing the potential of AI to revolutionize communications, Rosenworcel acknowledged the challenges it poses but also highlighted its significant opportunity to enhance efficiency, impact, and resilience in communication networks.

The proposed inquiry, titled a Notice of Inquiry, aims to explore:

- Integration of AI technologies: The inquiry will assess how AI technologies align with the FCC's statutory responsibilities under the TCPA.
- Future AI technologies: It will investigate the scope of future AI technologies falling under TCPA regulations.
- Regulatory frameworks and policy formation: The impact of AI on existing regulatory frameworks and potential policy adjustments will be examined.
- Authentication of AI-generated content: Consideration will be given to methods for verifying the authenticity of AI-generated voice or text content from trusted sources.
- Next steps: The inquiry will explore possible future actions necessary to advance these investigations.

As AI technologies capable of generating content become increasingly prevalent, they have the potential to replicate tasks traditionally performed by humans—including interactive communications via voice calls and texts. Moreover, AI can enhance analytical tools used to block unwanted communications, restoring trust in communication networks. This technological advancement also brings forth new challenges, including privacy concerns and safety risks—such as the ability to mimic real human voices. The FCC's proposed inquiry aims to strike a balance by comprehensively understanding the benefits and risks associated with AI. By doing so, the Commission can formulate effective strategies to combat potential harms, leverage the advantages of AI, and safeguard consumers.

China Claims World's Fastest Internet with 1.2 Terabit-Per-Second Network

Huawei Technologies Co. and China Mobile Ltd. have built a 3,000-kilometer (1,860-mile) internet network linking Beijing to the south, which the country is touting as its latest technological breakthrough. The two firms teamed up with Tsinghua University and research provider Cernet.com Corp. to build what they claim is the world's first internet network to achieve a "stable and reliable" bandwidth of 1.2 terabits per second, several times faster than typical speeds around the world. Trials began July 31 and it's since passed various tests verifying that milestone, the university said in a statement. Tsinghua, Chinese President Xi Jinping's alma mater, is plugging the project as an industry-first built entirely on homegrown technology, and credits Huawei prominently in its statement. The Chinese firm in August made waves when it released a 5G smartphone with a sophisticated made-in-China processor, inspiring celebration in Chinese state and social media. That event also spurred debate in Washington about whether the Biden administration has gone far enough in attempts to contain Chinese technological achievement. The network "is operated based on China's domestically-owned key technologies," the official Xinhua News Agency said in a report carried on Tsinghua's website. Bloomberg News hasn't verified the authenticity of those claims. In February, Nokia — Huawei's global rival — announced it's achieved 1.2 terabits a second over what it called "metro distances" of about 118 km on an optical network in Europe.

FCC Opens 6 GHz Band for Low-Power AR/VR Devices

The FCC will allow low-power wearable technology, including AR and VR devices, to access the 6 GHz frequency band without the need for a license. This decision comes amidst a surge in mixed reality devices flooding the market. The FCC's announcement enables low-power devices to use the 6 GHz band, offering faster speeds, enhanced bandwidth, and lower latency. According to the FCC, this decision will stimulate economic growth and enrich consumer experiences. Leading tech giants – including Meta, Apple, and Google – petitioned the FCC in 2020 to open up this frequency spectrum for their low-power AR/VR wearables. Meta

recently launched its Quest 3, while Apple is gearing up to ship its Vision Pro in early 2024. Meta and Apple are also working on AR glasses. The FCC's move allows for the connection of AR/VR devices to smartphones and facilitates the sharing of navigation data with vehicles, opening up new avenues for user interactions and experiences in the expanding metaverse. However, the FCC has taken careful measures to balance innovation with the protection of existing services. The newly established rules limit permitted devices to very low power levels and include specific requirements to ensure nationwide operation while safeguarding licensed services operating in the same band. The band is not only vital for next-generation Wi-Fi but also used by services managing the US electric grids and long-distance phone services, necessitating stringent FCC oversight. This decision marks a significant step towards a metaverse future, where immersive experiences and cutting-edge applications seamlessly integrate into our daily lives.

Telefonica Set to Launch 5G SA Network

Telefonica Deutschland, which provides services under the O2 brand name, plans to switch on its 5G Standalone (SA) network on 10 October. From that date, O2 contract customers with a compatible SIM card and smartphone that are within coverage areas will be able to surf the internet and make calls via Voice-over-New Radio (VoNR) technology on the new network, referred to by Telefonica as '5G Plus'. The service will be free of charge via the '5G Plus Pack' add-on option for a period of twelve months. '5G Plus on the O2 network marks the beginning of a new technology era. We can sustainably connect our customers at high data rates and enable new digital applications,' said Mallik Rao, Chief Technology and Information Officer (CTIO) of Telefonica Deutschland, adding: 'Now O2's new 5G Plus network is available to more than 90% of the population in Germany. By the end of 2025, we will provide the whole of Germany with 5G Plus, giving digitization a massive boost.' The service, which is currently available to more than 90% of the population, exclusively uses frequencies designated for 5G in the O2 network, which currently includes the 700MHz, 3.6GHz and 1800MHz (DSS) bands. Telefonica adds that the maximum available bandwidth of 5G Plus will grow continuously in the coming months and years as even more spectrum is deployed.

Mira Aerospace Conducts 5G HAPS Trial From Stratosphere

High altitude pseudo satellite (HAPS) firm Mira Aerospace has conducted a successful 5G trial from the stratosphere - which ranges from 4-12 miles (6-20km) above the Earth's surface to around 31 miles (50km). "Our team is excited to announce that our ApusDuo aircraft achieved the world's first successful delivery of 5G connectivity from a fixed-wing HAPS (high-altitude pseudo satellite) aircraft in the stratosphere last month," Mira announced last week. "Reaching a maximum flight altitude of 16.9 km, our stratosphere-ready communications payload delivered Rwanda's first 5G-enabled Zoom video call." Mira said the communications payload continuously delivered 5G connectivity for approximately 73 minutes, during which it reached a maximum altitude of 16.9 km. During the test, the stratosphere-ready 5G communications payload enabled a 5G Zoom video call. Mira is a joint venture of UAVOS and Bayanat. The former is a developer and manufacturer of advanced unmanned systems; Bayanat, part of G42, offers applications, services, and components for satellites and aviation including surveying, geospatial, and earth observation data analysis as well as satellite radars. UAVOS is developing the ApusDuo platform. The company said it will be able to operate in the stratosphere at an average altitude of 59,000 feet/18 kilometers. The ApsDuo HAPS has a wingspan of 15 m (49.2 ft) and a maximum take-off weight of 95lb (43kg). For the test flight, Mira had to construct three temporary runways for takeoff and landing, using artificial grass. Though the company said it was the "world's first" successful delivery of 5G connectivity from a fixed-wing HAPS (high altitude pseudo satellite) autonomous aircraft in the stratosphere, SoftBank conducted its own successful 5G connectivity trial from

a stratospheric HAPS in September as well. Announced earlier this month, SoftBank said the company tested its proprietary 5G communications payload in the stratosphere in late September. The company said the communications payload continuously delivered 5G connectivity for approximately 73 minutes in the stratosphere at a maximum altitude of 16.9km and enabled a 5G-based Zoom video call between an unmodified 5G smartphone at the test site in Rwanda and SoftBank team members in Japan. Though the companies don't mention one another in their respective announcements, the similarities of the trials suggest they may have been working together. HAPS – whether they be airships, balloons, or fixed-wing drones – offer a way to provide connectivity to rural and unconnected areas from high altitudes without the upfront costs of cell towers or satellites or the need for specialist receivers. Mira said it plans to commercialize this technology by 2025. Its platforms will be able to provide services in connectivity, Earth observation, weather, security, and emergency disaster management. A successful platform high-altitude test flight was conducted over the summer. Other players in the HAPS space include BAE, Airbus, Avealto, Stratospheric Platforms, and Sceye.

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REGULATORY NEWS

TDRA-UAE obtains the International Public Sector Accounting Standards certification (CERT IPSAS)

The Telecommunications and Digital Government Regulatory Authority (TDRA), represented by the Human Capital Department, obtained the International Public Sector Accounting Standards (CERT IPSAS) certification from the Association of Chartered Certified Accountants (ACCA), one of the leading and globally recognized international organizations in the field of accounting. TDRA is the first federal entity to obtain such certificate, which reflects the advanced capacities and expertise within TDRA's workforce in the field of finance. It also underscores TDRA's leadership, its dedication to excellence in financial management, and its preparedness to establish new benchmarks for financial transparency and accountability in the public sector. Commenting on this achievement, H.E. Mohammad Al Kitbi, TDRA Deputy Director General for Support Services Sector, said: "At TDRA, we adhere to the directives of our wise leadership, recognizing that the pursuit of excellence is a continuous journey. Thus, we at TDRA strive to instill a culture grounded in the principles of leadership and excellence across all operational domains. Our success in this endeavor is attributed to the robustness of our national workforce, the teamwork, and an unwavering commitment to realizing TDRA's highest objectives, in line with "We the UAE 2031" vision, which emphasizes a Forward Ecosystem." The International Public Sector Accounting Standards Program (IPSAS), which TDRA has successfully adopted, aims to enhance and support employees' skills in the field of finance by providing comprehensive guidance on the practical implementation of International Public Sector Accounting Standards, reaching a mastery stage that helps improve financial operations and enhance comprehensive financial management. The program strives to offer a hands-on understanding of the application of these standards, globally acknowledged as benchmarks for financial reporting excellence. Objectives encompass explaining the functions of the International Public Sector Accounting Standards Board (IPSASB) and detailing the developmental methodology. Participants will gain a comprehensive perspective on the widespread utilization of IPSAS across the globe. This global perspective will enable TDRA to align its financial procedures with international best practices, fostering transparency and credibility. It underscores TDRA's dedication to implementing best practices and upholding the utmost standards of financial integrity within the public sector. It is noteworthy that TDRA's embrace of the "IPSAS" program is part of its steadfast dedication to fostering a culture of ongoing learning and aligning its procedures with international best practices. This commitment extends to the integration of innovation and excellence in financial management, driven by TDRA's recognition of the essential role of financial practices in fulfilling its mission of promoting a prosperous and transparent digital ecosystem.

ITU ranks NTRA within 'G5 Benchmark' advanced performance level

Egypt's National Telecom Regulatory Authority (NTRA) has achieved the "Advanced" level in the G5 Benchmark for regulatory performance in the telecommunications sector, as recognized by the International Telecommunication Union (ITU). This level represents the highest global ranking and highlights the collaborative efforts in regulatory development within the telecommunications industry. The ITU has classified the NTRA and the Egyptian regulatory experience at this level due to their effective use of collaborative regulation to foster an integrated digital economy and create a conducive regulatory environment for efficient and effective digital services. Collaborative regulation is considered essential for the digital transformation process and the delivery of integrated digital services in various sectors. It requires coordination and collaboration between telecommunications regulatory bodies and counterparts in other sectors. This collaborative approach aims to establish an effective regulatory framework for service governance and address the challenges posed by emerging technologies and integrated digital services. The ITU's classification of the NTRA reinforces Egypt's leading role regionally and globally in the telecommunications regulatory field. This recognition opens up further investment opportunities in the Egyptian telecommunications market and supports the development of an attractive investment and competitive environment. It also contributes to the progress of the digital transformation process. The NTRA has actively promoted collaborative regulation by engaging with regulatory entities from different sectors to support the digital transformation process. This includes agreements with the Central Bank of Egypt to support digital payments and enhance financial inclusion. Additionally, the NTRA collaborates with various government entities to ensure the protection of telecommunications infrastructure within the national cybersecurity strategy. The recent progress of the NTRA builds upon a series of local and international achievements in telecommunications regulation. These achievements include launching initiatives to promote digital services in the Egyptian market, involving all segments of society in the digital transformation process, and ensuring accessible telecommunications and internet services for elderly users and people with disabilities. Furthermore, the NTRA's interactive application, MyNTRA, was recognized as one of the top five global projects in digital government at the World Summit on the Information Society (WSIS) forum in May 2022. Egypt also hosted the Global Symposium for Regulators (GSR23), which brought together over 700 specialists from telecommunications regulators and policymakers from more than 100 countries. In addition, the Egyptian African Telecommunication Training Center (EG-ATRC), affiliated with the NTRA, has been accredited by the ITU as an international training center at the ITU Academy. This accreditation was achieved by meeting the criteria for selecting partners for the ITU Training Academy from a pool of over 60 participating centers worldwide. Moreover, Egypt chaired three study committees in the radio, standardization, and development sectors at the International Telecommunication Union.

XL Axiata-Smartfren Merger Reportedly Entering Final Stages

The proposed merger between Indonesian telcos XL Axiata and Smart Telecom (Smartfren) is entering its final stages, according to a report from Bloomberg. It is claimed that the parties involved agreed to a stock valuation for the target company of IDR50 (USD0.00318) per share – a discount on Smartfren's current market price of IDR53. Whilst Smartfren President Director Merza Fachys is cited by D-Insights as stating that he has not yet received information on the price or agreement from the telco's parent, Sinar Mas Group, he nonetheless 'hope[s] for a better solution through the merger'. The Ministry of Communication and Informatics (MCI, known locally as KemKominfo) confirmed back in September that XL Axiata and Smartfren had entered into discussions about a possible merger. Based on research from BRI Danareksa Sekuritas, as reported by D-Insights, the enterprise values for XL Axiata and Smartfren are currently IDR73.6 trillion and IDR43.1 trillion, respectively, while their market capitalizations are IDR31.1 trillion and IDR18.9 trillion, which means a merger could create an enlarged entity valued at IDR116.7 trillion – likely with XL Axiata as the senior partner.

ITU Radiocommunication Assembly Sets Agenda for Development of IMT-2030 for 6G and Sustainable Use of Spectrum and Orbital Resources

The ITU Radiocommunication Assembly 2023 (RA-23) has charted the future directions in radiocommunication systems. The Assembly adopted a resolution that will guide the development of standards and radio interface technologies for the 6th generation of International Mobile Telecommunications (IMT) systems. Among other outcomes, RA-23 also adopted a resolution on gender equality to strengthen, accelerate and widen the active involvement of women in the work of the ITU Radiocommunication Sector (ITU-R). "The work of the Radiocommunication Assembly helps us shape how we live together in our interconnected world," said ITU Secretary-General Doreen Bogdan-Martin. "The outcomes of this meeting ensure a promising future for ITU's Radiocommunication Sector and, through the groundbreaking resolution on gender equality, for women in the radiocommunications field."

Discussion highlights during the Radiocommunication Assembly (RA-23) included:

- agreement on "IMT-2030" as the technical reference for the 6th generation of International Mobile Telecommunications;
- revision of ITU-R Resolution 65, paving the way for studies on the compatibility of current regulations with potential 6th generation IMT radio interface technologies for 2030 and beyond;
- adoption of the new Recommendation ITU-R M. 2160 on the "IMT-2030 Framework," setting the basis for the development of IMT-2030. The next phase will be the definition of relevant requirements and evaluation criteria for potential radio interface technologies (RIT);
- adoption of a new resolution on the use of IMT technologies for fixed wireless broadband;
- in accordance with Resolution 219 (Bucharest, 2022), adoption of a new resolution on space sustainability to facilitate the long-term sustainable use of radio-frequency spectrum and associated satellite orbit resources used by space services. This will be supportive of further cooperation with other United Nations organizations and beneficial to the satellite industry;
- conclusion of a new ITU-R Recommendation on the protection of the radio navigation-satellite service and amateur satellite services;
- revision of Resolution ITU-R 8-3 to promote the participation of engineers and scientists from developing countries in propagation campaigns in tropical and subtropical regions of the world for which there is limited data monitoring.

"This Radiocommunication Assembly has achieved significant accomplishments and the outcomes will establish the framework for the activities of the ITU Radiocommunication Study Groups in the upcoming four-year study period," said Mario Maniewicz, Director of ITU's Radiocommunication Bureau. "We have set the stage for the development of

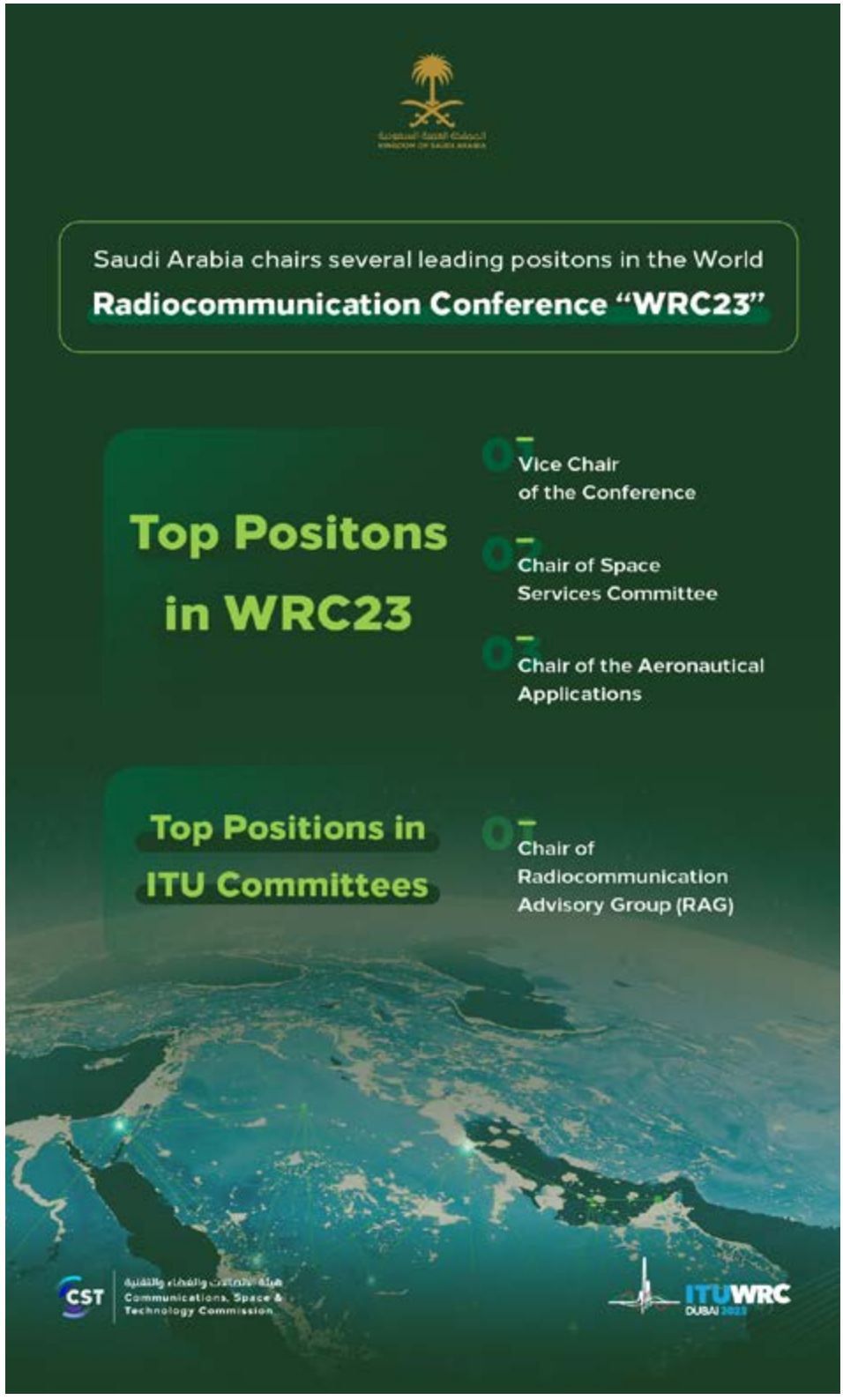
new technologies with the potential to deliver better capacity and coverage everywhere, bridging the digital divide, as well as providing possible solutions to the challenges and impacts they will have on our lives." The adoption of the gender resolution was called for by the 2019 World Radiocommunication Conference's "Declaration on Promoting Gender Equality, Equity and Parity in the ITU Radiocommunication Sector." The resolution calls on the ITU Radiocommunication Sector to strengthen and accelerate all efforts to ensure that its policies, work programmes, information dissemination activities, publications, study groups, seminars, courses, assemblies and conferences reflect the commitment to gender equality and the empowerment of women. With Australia's Carol Wilson serving as the first woman to chair an ITU Radiocommunication Assembly, the resolution further calls on ITU Member States to support the inclusion of women in all aspects and levels of ITU R activities and to undertake a variety of specific actions to promote and increase the interest of, and opportunities for, women and girls in STEM fields, particularly in electrical engineering and computer science. RA-23 revised Resolution ITU-R 5-8 which established the work program and questions for the Radiocommunication Study Groups for 2024-2027. New chairs for the ITU-R Study Groups were also appointed. Over 1,300 delegates from 128 ITU Member States attended the Assembly which meets every four years to set the future work programmes for the ITU Radiocommunication Sector, approve radiocommunication standards (ITU-R Recommendations) and resolutions. The World Radiocommunication Conference (WRC-23) will meet in Dubai from 20 November through 15 December 2023.

Tajikistan Loosening International Internet Connectivity Monopoly

Tajik telecoms regulator the Communication Service under the Government of the Republic of Tajikistan (CS) has decided to allow two of the nation's four mobile network operators, MegaFon Tajikistan and Tcell, to directly access international internet data channels instead of routing all internet traffic through state-run central communications hub the Unified Communication Transit Centre (UCTC, a.k.a. Unified Electronic Communications Switching Centre), Eurasianet reports. The UCTC, via which all Tajik fixed and mobile operators are currently obliged to route international internet traffic, was established in 2016 and is run by state-owned Tajiktelecom – itself overseen by the CS – with the effect of inhibiting development of both mobile and fixed internet markets ever since; GCD adds that a World Bank report in August 2019 criticized the UCTC and the Tajik state's telecoms regime as fostering an anti-competitive and underdeveloped sector, with further statements from the bank in 2021 reiterating this stance, but the status quo has persisted until now, despite additional criticism of the country's internet connection quality in 2022 from Tajikistan's President Emomali Rahmon – who himself signed the law in January 2016 requiring all ISPs and cellcos to route internet traffic via the UCTC in the interests of 'national and information security'. With Tajikistan reportedly suffering some of the worst internet speeds in the world, this month's long-awaited announcement from the CS is expected to loosen the monopolistic arrangement of traffic control via the Tajiktelecom/UCTC system and in turn improve access to high speed bandwidth around the country. GCD notes that both of the cellcos being granted initial permission to source direct international internet channels are private sector-run: Tcell is 100% owned by the Aga Khan Fund for Economic Development and MegaFon Tajikistan is controlled by Russia's MegaFon with a 75% stake, albeit Tajiktelecom owns the other 25%.

Saudi Arabia Chairs Several Leadership Positions in the World Radiocommunication Conference "WRC23"

Saudi Arabia chairs a number of leadership positions during the World Radiocommunication Conference "WRC23" held in Dubai, United Arab Emirates (UAE), which was a result of consensus by the member states of the International Telecommunication Union (ITU). The Saudi representatives will assume executive roles in the conference by leading the decision-making process and developing reports related to international spectrum allocation, technical and regulatory measures to ensure better use of frequencies used by space, aeronautical, maritime and other services to avoid any radio interference. During the opening of the conference, the Chairman of the conference and the Vice Chair were elected, as Saudi Arabia won the position of Vice Chair of the Conference to be led by Eng. Mohammed Al-Abdulqader. In addition, Eng. Abdulrahman AlNajdi was elected as the Chair of Space Services Committee, while Eng. Saad Bin Askar was elected as the Chair of the Aeronautical Applications Committee. Saudi Arabia also won the position of the Chair of Radiocommunication Advisory Group (RAG), which will be led by Eng. Mohammad AlJanoobi. The RAG reviews the strategies and priorities of the radio sector in the International Radiocommunication Union (ITU-R), and provides instructions and guidance to the study committees in the ITU. The Communications, Space and Technology Commission (CST) stated that these positions are a testimony to the national Saudi capabilities and reflect the trust of the international community in Saudi Arabia and its contributions in achieving the goals of international spectrum management and its technical & regulatory processes. CST highlights the efforts of the Saudi representatives in the committees and study groups they have been assigned to, which reflect their experiences and capabilities that are reliable in shaping the future of communications, space and technology globally. Saudi Arabia has been a member of the ITU Council for 58 years along with being a strong contributor to their initiatives and objectives, as it seeks to enhance regional and international cooperation and solidarity in the field of radiocommunications through its leading positions in the ITU such as chairing the Radio Regulations Board (RRB).



TRA Proposes Changes to BNET's Reference Offer Process and Deployment Targets; Aiming to Further Enhance Connectivity and Bahrain's Global Competitiveness

As part of its commitment to ensuring a well-connected Bahrain, and maintaining world-class telecoms infrastructure, the TRA published Consultation Papers proposing changes to key aspects of Bahrain Network (BNET)'s current deployment targets and Reference Offer process. To sustain Bahrain's global competitiveness, The TRA proposes to enhance BNET's service accessibility at prices that are fair and reasonable. These Consultation Papers underscore TRA's ambition of ensuring ultra-fast fiber services are available to all consumers and businesses. To achieve this, the TRA is proposing clear deployment targets for BNET, aimed at enhancing fiber availability for everyone. Additionally, the TRA aims to streamline the amendment and approval process for Reference Offers, promoting a simpler, faster, and more efficient approach. Philip Marnick, General Director of the TRA, commented "We are committed to creating a competitive and consumer-centric environment that ensures everyone can get the fiber services they need at attractive prices. We are also committed to ensuring Bahrain continues to be the leading telecoms market in the region and a global leader. The proposals offer a streamlined approach benefiting telecom operators enabling them to meet market demand. It also ensures that consumers enjoy a wider range of reliable and high-quality services. We firmly believe that enhancing the telecoms ecosystem will contribute to Bahrain's economic growth and prosperity, while fostering a more vibrant and competitive telecommunications market." In parallel, the TRA is inviting stakeholders to participate in a workshop. The objective of the workshop is to facilitate an open dialogue and promote a shared understanding regarding the future economic regulation of BNET, before formally consulting on the regulatory model that best serves a competitive telecom sector. Enabling the sector to continue ensuring Bahrain is one of the best places to establish and operate a business, has world leading broadband services and supports mobile operators ability to deploy the latest services.

Spanish Govt Ponders Buying into Telefonica to Counteract stc; Saudis Reportedly Drop Plan to Raise Stake

The government of Spain is reportedly weighing plans to take a stake in Telefonica via the sovereign wealth fund Sociedad Estatal de Participaciones Industriales (SEPI) in a move designed to counter Saudi Telecom Company (stc) if it attempts to become the Spanish telecom giant's largest shareholder. Reuters cites a filing to the stock market regulator dated 31 October in which SEPI noted that the plan 'does not assume a decision on an acquisition'. Alongside this development, El Economista reports that stc has 'dropped' a proposal to convert the 5.0% stake in Telefonica it holds as derivatives into shares, and instead keep its current stake at 4.9%. The newspaper cited people 'familiar with the operation' as saying that Saudi Arabia's largest telecoms operator had opted not to progress the conversion at this time but neither it nor Telefonica would comment on the report, and the Spanish government also had no immediate comment. Last month stc acquired a 9.9% stake in Telefonica for a total consideration of EUR2.1 billion (USD2.23 billion), though it added it did not intend to acquire control or amass a majority stake. 'This investment is in line with stc's growth strategy to expand by acquiring stakes in value-added strategic assets in promising markets, along with benefiting from the return on these investments to support stc's growth, expansion, and capital recycling efforts,'

it said. TeleGeography notes too that as Telefonica is considered a 'defence service provider', Spain's Ministry of Defence has a say in acquisitions and holdings between 5% and 10%, unless the buyer commits not to request a seat on the board.

Balkan States Agree Coordination of 3400MHz-3800MHz Frequencies

The regulatory authorities of six Balkan states – Albania, Bosnia-Herzegovina, Croatia, Montenegro, North Macedonia and Serbia – have signed an agreement on the coordination of mobile/fixed communication networks (MFCN) in the 3400MHz-3800MHz band. The agreement sets out the principles, technical provisions and administrative procedures to regulate the deployment of networks using those frequencies in border areas with the aim of maximizing the efficient use of the spectrum, ensuring equal access to the airwaves whilst preventing interference.

Zegona Agrees to Buy Vodafone Spain for €5 Billion

Vodafone has announced that it has entered into a binding agreement with Zegona Communications to sell 100% of Vodafone Spain. Under the terms of the agreement, Vodafone will receive €4.1 billion in cash and €0.9 billion in redeemable preference shares. The news comes after anonymous sources speaking to Bloomberg recently confirmed that the two firms were close to inking the deal. Discussions between the two parties were reportedly initiated back in September. "The sale of Vodafone Spain is a key step in right-sizing our portfolio for growth and will enable us to focus our resources in markets with sustainable structures and sufficient local scale. I would like to thank our entire team in Spain for their dedication to our customers and relentless determination to improve our organic performance. However, the market has been challenging with structurally low returns," said Vodafone CEO Margherita Della Valle in a statement. "My priority is to create value through growth and improved returns. Following the recently announced transaction in the UK, Spain is the second of our larger markets in Europe where we are taking action to improve the Group's competitiveness and growth prospects." Della Valle was made permanent CEO in April, and since then, the firm has announced numerous large scale changes to their operations, including the merger of Vodafone UK with Three UK and cutting 11,000 jobs globally. "We are very excited about the opportunity to return to the Spanish telecoms market. This financially attractive acquisition marks our third deal in Spain after successful turnarounds at Telecable and Euskaltel. With our clearly defined strategy and proven track record, we are confident that we can create significant value for shareholders,"

said Eamonn O'Hare, Zegona's Chairman and CEO, in a company statement. The takeover is expected to close in the first half of next year. The Spanish mobile operator market is notoriously competitive, with Vodafone struggling to hold its own against market leader Movistar alongside Orange and MasMovil. Della Valle's predecessor, Nick Read, had long hoped that market consolidation would be the answer, which was shattered after the merger of Orange and MasMovil was announced last year.

FCC Poised to Increase Minimum Broadband Speed Benchmark to 100Mbps/20Mbps

The Federal Communications Commission (FCC) has confirmed that it plans to evaluate the state of broadband across the US, as required by section 706 of the Telecommunications Act of 1996. As part of this inquiry, the watchdog will focus on the universal service goals of section 706 – universal deployment, affordability, adoption, availability and equitable access to broadband throughout the US. In addition, the Notice of Inquiry (NoI) proposes to increase the national fixed broadband speed benchmark to 100Mbps (download) and 20Mbps (upload). The FCC previously set the benchmark at 25Mbps/3Mbps in 2015 and has not updated it since. The NoI also seeks comment on setting a separate national goal of 1Gbps/500Mbps for the future.

Digital Networks Act: Breton Lays Out Vision for EU Telecom Operators

Thierry Breton, the EU Commissioner for the Internal Market, unveiled the core proposals of a highly awaited EU telecom legislation, the Digital Networks Act (DNA), where he supported the concentration of telecom operators and the creation of EU telecom "champions". The yet-to-be-published telecoms act will redefine the regulation of the EU's telecoms sector, Breton wrote on Tuesday (10 October), aiming at addressing market fragmentation, attracting investment, and securing the telecom infrastructures. "Telecoms operators need scale and agility to adapt to the technology revolution, but market fragmentation holds them back," he said. The announcement came on the tail of the results of a Commission-led exploratory consultation on the future of the electronic communications sector and its infrastructure. Almost all of the 27 EU countries have four fixed operators competing per national market, while mobile operators are numerous. This makes the EU a highly competitive market compared to the United States, where only a handful of operators compete. However, "fair competition must not be confused with 'market fragmentation'" Cláudio Teixeira, legal officer at independent consumers' organization BEUC, told Euractiv. "The competition-driven EU telecoms market has been a success story for the past two decades. When compared to the US, EU consumers pay less and get better quality of services," he said.

Largest telecom operators praise Breton

Breton's message has been welcomed by the largest European telecom operators. Joakim Reiter, chief external affairs officer at Vodafone, echoed the Commissioner's view, saying "that market fragmentation and regulatory barriers are holding back a true telecoms single market". The European Telecommunication Network Operators' Association (ETNO) and the GSM Association welcomed Breton's position in a joint publication. They praised Breton's focus on the issue of market consolidation within member states, and support for adapting the EU's regulatory framework in order to cut costs and red tape. The EU is in dire need of creating "a real telecom single market in which operators achieve the necessary scale", the two wrote.

Smaller telecom operators fear unfair competition

However, the European Competitive Telecommunication Association (ECTA) told Euractiv it feared that "this report will serve as a spurious alibi to open the door to telecom deregulation, to a change in the EU Electronic Communications Code (EECC)". ECTA fears that deregulation for the purpose of market concentration would negatively impact smaller and more innovative telecom operators, eventually leading to higher costs for end-users and less innovation. Teixeira shared this view, saying that Breton's Digital Networks Act was premature and counterproductive "while the EU is still debating the Gigabit Infrastructure Act and implementing the EU Electronic Communications Code". Instead, he said, the Commission should support the Parliament's push to deliver the end of surcharges for intra-EU communications that EU consumers have been waiting for.

Roaming charges reduction

Innocenzo Genna, a telecom legal expert, told Euractiv that the Digital Networks Act's focus "should be on pan-European services, not on pan-European operators". Breton's statement appeared to support the concentration of telecom operators within each member state, therefore promoting concentration vertically, in each national telecom market. Yet, experts say there is no guarantee, that a vertically integrated operator would be able to propose horizontal, or pan-European, services for EU consumers. "It is rather a barrier to market integration," Genna said, adding that instead, wholesale roaming charges should be reduced for telecom operators. Although roaming surcharges are already somewhat abolished for end-users, operators are still paying roaming surcharges. If wholesale roaming fees were to be reduced to their retail price, Genna said, mobile operators would be able to compete "at a pan-European level with pan-European services". In a nutshell, mobile operators would be able to sell SIM cards everywhere in the EU, leading to fair competition between all mobile operators. From there, concentration "will happen naturally at the mobile [telecom] market level, which will then push for higher fixed [telecom] market concentration", Genna explained. Therefore, said Genna, the EU will fairly and successfully create EU telecom "champions" only by keeping a high level of competition within its telecom market.

Telecom Development, the Backbone of Digital Nepal

Deputy Prime Minister and Defense Minister Purna Bahadur Khadka has said the development of telecommunication sector is the backbone for the 'digital Nepal'. Addressing a program entitled 'The Future and Prospect of Telecommunication in Nepal', he said the development of telecommunication has bridged the gap between cities and villages in Nepal. The Deputy Prime Minister maintained that the government has clearly stipulated in its policy and program document regarding the development of the telecom sector. "Development of telecommunication is the backbone of digital Nepal. Therefore, investment is the priority for this, besides putting in place appropriate strategy and development of adequate infrastructures and the required human resources. Realizing this priority, the Government of Nepal has been attaching special emphasis on the development of telecommunications and other technology sectors in its present plans, policies and programs," DPM Khadka said. He also stated that new opportunities have emerged in this sector due to the rapid development of modern technology in the telecom sector and the dynamic changes in its structure. The DPM and Defense Minister added that the time has come for looking at telecom expansion and use together with the overall social and economic development in the context of Nepal by studying the international use and practices regarding development of the telecom sector. "Looking at the dynamic scenario of the 21st century, the role of telecommunication is seen to be crucial to shape up the power and capability of nations. Development of telecom sector has proved to be a complete change in the context of Nepal, a country full of diverse cultures and geography. Its development reflects the Nepali people's deep desire for development," he opined. According to him, the students have benefited from the development of telecom in Nepal and it has also paved the new way for economic growth, social development and the overall progress. "In the education field, the development in telecommunication has provided access to world-class education to students by reducing the gap between the students of the urban and rural areas, removing the geographical barriers. Telemedicine will bring a revolution in the health sector and is creating a situation for providing quality medical services to people who are geographically apart," he explained. DPM Khadka also believed that the development of telecom sector has helped in expansion of the digital economy and supported industrialists and small businesses to flourish worldwide. He utilized the forum to share that along with opportunities, telecom development has also brought challenges, stressing that the government is also conscious that no citizen should be deprived of the opportunities provided by the telecom services.

Telekom Romania Mobile Sale Agreed

Deutsche Telekom and its Greek subsidiary OTE have agreed a deal to sell Telekom Romania Mobile Communications to Clever Media Network, Ziarul Financiar reports, citing unnamed telecom market sources. Controlled by entrepreneur Adrian Tomsa, Clever Media Network owns Prima TV, one of the leading broadcasters in Romania, and holds the TV broadcast rights for the Romanian football championship. The report adds that the proposed transaction is being analyzed by Romania's Supreme Council of National Defence (Consiliul Suprem de Aparare a Tarii, CSAT). CSAT is said to have blocked two previous attempts to sell the mobile operator. The Deutsche Telekom and OTE completed the sale of a controlling 54% stake in Telekom Romania's fixed line business to Orange in September 2021.

Nkom Outlines Timetable for 1500MHz, 26GHz Spectrum Allocations

Norway's National Communications Authority (Nasjonal kommunikasjonsmyndighet, Nkom) has confirmed the timetable for its planned allocation of spectrum in the 1500MHz and 26GHz bands. In a press release regarding the matter, Nkom said that it aims to award 26GHz frequencies during the second quarter of 2024, subject to demand. As such, it will conduct a consultation on the overall framework for the spectrum sale in Q1 2024, as part of which it will gauge demand for 26GHz frequencies. Assuming there is no indication of excess demand, the 26GHz allocation will take place as planned. However, in the event of excess demand, the allocation of the 26GHz band will instead take place concurrently with the proposed allocation of 1500MHz band spectrum, which is expected to be undertaken in the fourth quarter of 2024.

FCC Approves Strong Digital Discrimination Rules

The Federal Communications Commission approved digital discrimination rules Wednesday that will take a tougher tack on companies providing disparate broadband services, scrutinizing policies that are not intentionally denying service to protected groups. The FCC has said in its approved rules it will accept legitimate logistic and economic barriers as defenses from companies accused of discriminatory practices, and will evaluate those claims on a case-by-case basis. Companies found to be in violation of the new rules will be subject to the commission's existing enforcement measures. The measure, proposed in October, passed on party lines, with the three Democratic commissioners voting in approval and the two Republicans dissenting. "Many of the communities that lack adequate access to broadband today are the same areas that suffered from longstanding patterns of residential segregation and economic disadvantage," said FCC Chairwoman Jessica Rosenworcel. In adopting the order, the commission will also begin accepting comments on establishing a civil rights office within the agency and imposing additional reporting and compliance requirements on broadband providers. The commission was required by the Infrastructure, Investment and Jobs Act to develop policies to prevent gaps in broadband access among different races, ethnicities, income levels, and other demographic characteristics – known as digital discrimination. Its adoption of those rules comes on the two-year anniversary of the IIJA, the deadline set by the law. In an update to the public draft that was released in October, the approved rules exempt providers participating in the $42.5 billion Broadband Equity, Access and Deployment program and the FCC's Universal Service Fund. The policies of those programs, commissioners said, already prevent disparate deployment in service areas that are difficult or expensive to reach. Industry groups have been lobbying against the rules, meeting with commission staff repeatedly in recent weeks to advocate a lighter touch. Civil rights groups have applauded it, making a push of their own to urge commissioners to stand firm. The Joe Biden administration also supports the rules, asking commissioners to adopt a similar digital discrimination framework weeks before Rosenworcel's announcement. The commission approved additional measures at its November 15 open meeting, including an order aimed at protecting victims of domestic violence, an inquiry into artificial intelligence's impact on robocalls, and an order addressing SIM swap fraud. The commission adopted an order implementing the 2022 Safe Connections Act, a law aimed at protecting the privacy of abuse survivors. The order requires mobile providers to allow domestic abuse victims to quickly separate phone lines from family plans. It also requires providers to omit from customer-facing logs any records of calls or texts to abuse hotlines. Large and medium-sized providers will have 12 months to comply with these requirements, while small carriers will have 18 months. Abuse survivors will be able to receive six months of support from the FCC's Lifeline program, a monthly internet discount funded by the Universal Service Fund. The commission voted to move forward with a notice of inquiry on using artificial intelligence to prevent robocalls. Commissioners will seek comment on which AI technologies are relevant to the FCC's authority to protect consumers from scam calls. That will include feedback on how AI could be used to help the commission combat robocalls, and on how it could be used by bad actors to facilitate those calls now and in the future. The move comes as the FCC has taken an aggressive stance on scam calls, moving in October to block call traffic from 20 companies for lax enforcement policies and extending in August strong identity verification requirements to a wider array of voice providers. It will also seek input on verifying AI-generated voices and texts from callers or trustworthy entities legitimately using such tools. The FCC also voted to adopt an order addressing two common cell phone scams: SIM swap fraud and port-out fraud.

Hong Kong's VTL Bought by China Everbright

Village Telephone Limited (VTL), a Hong Kong telco which specializes in laying fiber network infrastructure in rural areas of the territory, has announced its acquisition by Everbright Overseas Investment Infrastructure Fund, part of Hong Kong-registered investment group China Everbright. VTL says the transaction will strengthen its business and 'improve its service and management quality and achieve steady progress in its overall operations, enabling it to provide better and more stable services to customers'. Financial details were not disclosed. Established in 2017, wholesale operator VTL has so far deployed gigabit-capable fiber networks in more than 500 village areas of Hong Kong, with services offered to end users by third-party telco partners including HGC Global Communications and Hong Kong Broadband Network (HKBN). Mobile operators also use its networks for backhaul connectivity.

V.tal in Takeover Talks with Ligga, Report Says

Brazilian fiber-optic wholesale operator V.tal has signed a memorandum of understanding (MoU) with regional telco Ligga Telecom regarding a potential takeover, a source familiar with the matter has informed BNamericas. As per the report, the process is being spearheaded by Brazilian investment bank BTG Pactual, which co-owns V.tal. Due diligence is on track to commence this week and should last 180 days. Ligga Telecom (known as Copel Telecom until March 2022) has been 100% owned by Bordeaux Fundo de Investimento em Participacoes Multiestrategia (Bordeaux Multi-Strategic Investment Fund) since 3 August 2021. It currently offers fiber-to-the-home (FTTH) connectivity in around 400 Parana municipalities and served 366,358 fixed broadband subscriptions as of 30 September 2023, of which 336,013 were connected via fiber.

Senegal and Mauritania Commit to Cross-Border Frequency Management

Telecoms regulators in Senegal and Mauritania have signed a cooperation agreement relating to cross-border frequency management. Senegal's Authority of Regulation of Telecommunications and Post (L'Autorite de Regulation des Telecommunications et des Postes, ARTP) and the Regulatory Authority of Mauritania (Autorite de Regulation, ARE) have signed a memorandum of understanding which will see the two authorities strengthening their collaboration in order to reduce cross-border interference and improve the quality of telecoms services in regions along the 742km border between the two countries.

CMA Calls for Initial Views on Proposed Three-Vodafone Merger

The UK's Competition and Markets Authority (CMA) has said it is providing 'an early opportunity' for interested parties to comment on the impact that the proposed merger of Three UK and Vodafone UK could have on competition. In a press release regarding the matter, the competition body said this call for initial views comes in advance of it launching a formal investigation, which is expected to get underway once it has received further information from the Three UK and Vodafone UK. Commenting, Sarah Cardell, chief executive of the CMA, said: 'We will be carefully considering how this deal may affect competition in the UK, which could affect the options and prices available to customers. We will also assess how it may affect incentives to invest in the quality of UK mobile networks. This is an opportunity for those with an interest in this merger to let us know their views before we launch a full investigation.' The plans for the merger of Three UK and Vodafone UK were formally announced in June 2023, with it revealed that Vodafone Group would take a 51% stake in the enlarged business, and Three's parent company CK Hutchison Group Telecom Holdings (CKHGT) taking the other 49%. In terms of the financial elements of the deal, there is no cash consideration to be paid, with the MNOs instead contributing differential debt amounts upon its completion; approximately GBP4.3 billion (USD5.4 billion) in debt will come from Vodafone

UK, with around GBP1.7 billion coming from Three UK. Subject to regulatory and shareholder approvals, the deal is expected to close before the end of 2024.

A SNAPSHOT OF REGULATORY ACTIVITIES IN THE SAMENA REGION

Bahrain

The Minister of Transportation and Telecommunications, Mohammed Al Kaabi, recently met with Dr. Cosmas Zavazava, Director of the Telecommunication Development Bureau (BDT) at the International Telecommunication Union (ITU), amid the convening of the Regional Development Forum (RDF-ARB) 2023 for the Arab Region. During this engagement, Minister Al Kaabi underscored Bahrain's commitment to strengthening cooperation with the ITU. He conveyed his aspirations for the forum, which is taking place in Bahrain, to play a pivotal role in the enhancement and progress of the communications sector within the region. Dr. Zavazava commended Bahrain for its instrumental support of the ITU's initiatives and stressed the significance of the forum as a platform for exchanging knowledge and expertise. He also pointed out the importance of discussing the various challenges and potential opportunities that the telecommunications sector is facing in the Arab region. The RDF-ARB 2023 forum has successfully gathered around 70 delegates, encompassing government officials, institutional representatives, and key players from the telecommunications industry. This assembly is indicative of Bahrain's proactive approach to fostering regional dialogue and collaboration aimed at driving forward the telecommunications sector's development. (November 7, 202) www.meatechwatch.com

The Telecommunications Regulatory Authority (TRA) of Bahrain was recognized for Outstanding Enablement in Broadband Affordability at the South Asia, Middle East, and North Africa (SAMENA) Telecommunications Council's Leadership & Excellence (LEAD) Awards ceremony in Dubai, UAE. This award reflects the Authority's commitment to ensuring cost-effective and accessible telecommunications services for everyone. In attendance were executives and dignitaries from the most prominent telecom operators, ICT providers, and regulatory bodies in the region. Through its ongoing regulatory approach and initiatives towards protecting consumers, the TRA has successfully fostered a competitive environment that has resulted in lower telecom rates compared to other SAMENA council members. The TRA remains steadfast in its mission to champion the interests of consumers and facilitate a vibrant telecommunications sector. "The LEAD Award is a recognition of the TRA's continuous efforts to prioritize the best interests of consumers and promote a thriving telecommunications sector in Bahrain," commented Philip Marnick, General Director of the TRA. "By focusing on the consumer, we have successfully facilitated a sector that offers the best rates in the region, this enables all individuals and businesses to stay connected and helps drive digital transformation in Bahrain. The TRA always focuses on fostering fair market competition among operators while also safeguarding consumer rights", he added. (October 18, 2023) www.tra.org.bh

Bangladesh

The Bangladesh Telecommunications Regulatory Commission (BTRC) has drafted the "National Broadband Policy 2023" to help Bangladesh grow as an advanced digital economy. The policy aims at universal access to state-of-the-art, high-capacity broadband networks, services, technology platforms, devices and applications. It will enable and expand access to new telecom operator licenses and open-market entry with a level-playing field, including national and unified licenses. The policy will also authorize community-based networks for ensuring competitive infrastructure investments to expand access and connectivity. Spectrum will be utilized more efficiently allowing more cost-effective and extended delivery of wireless broadband services by competing operators, according to the draft policy. However, it will review license and spectrum fees to enhance incentives for increased network investment and more equitable competition, which was a long demand of the telecom operators. The government will adopt and amend necessary laws and regulations relating to digital finance. The policy will ensure consumer protection, security, legality of digital signatures, compensation for fraud or deficient service and other elements of e-commerce. According to the policy, market competition will become more equitable, leading to increased investment, greater diversity of service options, higher quality of service and lower prices. The policy will "help establish infrastructure and resources so that these are widely and efficiently shared among competing operators and across sectors, leading to reduced costs, more

network investment and greater competition." It will review corporate tax policies applied to network operators and investors to ensure maximum incentives for investment in the expansion of broadband infrastructure and services. The policy will encourage private telcos to invest in the expansion of infrastructure and connectivity in unserved and underserved areas, and upgrade their networks under rational license terms to be agreed. The policy will develop rules and regulations to promote universal deployment of public ICT access facilities and services in all communities on a commercial and public service basis. It will also develop a national public Wi-Fi policy. The policy will consider further revisions of tax policies applied to various categories of devices and components, including both import tariffs and retail sales taxes, to ensure that the most effective balance of incentives and economic impacts are maintained to grow all segments of the industry.

(November 2, 202) www.dhakatribune.com

Bangladesh Telecommunication Regulatory Commission (BTRC) Chairman Shyam Sunder Sikder, whose tenure witnessed the highest spectrum allocation in the country, has been elected as the chairman of South Asian Telecommunication Regulators Council (SATRC). He was elected for a two-year tenure with the consents of the nine member states of the SATRC on the opening day of the three-day "the 24th South Asian Telecommunication Regulators Council (SATRC-24) Meeting" at Le Meridien Dhaka today. Sikder joined BTRC on December 14 in 2020 as its chairman. He was the secretary of the ICT Division in 2014. Later in 2017, he was made the post and telecom secretary. The SATRC was established in 1997 with the combination of telecommunication regulatory bodies of South Asia. This forum sets policy on spectrum coordination, standardization, regulatory trends, telecommunication development strategies, regional cooperation and international issues in the field of telecommunications. The current member states of the SATRC are Afghanistan, Bangladesh, Bhutan, India, Iran, Maldives, Nepal, Pakistan and Sri Lanka.

(October 3, 2023) www.thedailystar.net

Egypt

Egypt's National Telecom Regulatory Authority (NTRA) has been recognized with the "Advanced" level status in the G5 Benchmark for regulatory performance in telecommunications by the International Telecommunication Union (ITU). This prestigious classification represents the highest global ranking and underscores Egypt's commitment to regulatory excellence in the telecommunications sector. The ITU's decision to classify the NTRA at this level is attributed to the authority's successful implementation of collaborative regulation, which has significantly contributed to the growth of an integrated digital economy in Egypt. Collaborative regulation, pivotal in the digital transformation era, necessitates harmonious coordination among telecommunications regulatory bodies and other sector counterparts. This approach is vital to establish a regulatory framework that effectively governs digital services and addresses challenges posed by emerging technologies. Egypt's elevation to this status by the ITU not only reinforces the country's regional and global standing in telecommunications regulation but also paves the way for expanded investment opportunities in its telecommunications market. It furthers the development of a competitive and attractive investment climate and bolsters the digital transformation process. NTRA's dedication to collaborative regulation is evident in its partnerships with various entities, including the Central Bank of Egypt to advance digital payments and the government for national cybersecurity initiatives. The authority's efforts extend to promoting digital inclusivity, ensuring accessible telecommunications and internet services for all community segments, including the elderly and people with disabilities. In addition, NTRA's interactive application, MyNTRA, gained international acclaim as one of the top five global projects in digital government at the WSIS forum in May 2022. Egypt also hosted the Global Symposium for Regulators (GSR23), attracting over 700 specialists from more than 100 countries. The Egyptian African Telecommunication Training Center (EG-ATRC), under the NTRA, has been accredited as an international training center by the ITU Academy, highlighting its excellence in telecommunication training. Egypt's leadership roles in three study committees in radio, standardization, and development sectors at the International Telecommunication Union further illustrate the country's active engagement in the global telecommunications regulatory space. Through these efforts, the NTRA continues to shape a dynamic and forward-looking telecommunications regulatory landscape in Egypt, contributing significantly to the country's digital transformation journey and global telecommunications leadership. (November 12, 2022) www.meatechwatch.com

The government is planning to issue 5G licenses in December media reports citing sources familiar with the matter. As per the article, the 5G concessions are likely to be priced at USD500 million each. The National Telecommunications Regulatory Authority (NTRA) may consider delaying the licensing process to early-2024 if any of the participants need more time to secure the required financing, the report adds.

(October 20, 2023) Al Sharq Business News

Iran

Iran is close to awarding 5G-suitable spectrum in the 3.7GHz-3.8GHz band, Eisa Zarepour, the Minister of Communication and Information Technology has revealed. The plan was communicated to the Iranian Student News Agency at a national 5G conference in Tehran this week. 3G and 4G coverage is available to 93% of the population, the minister noted, while 5G should be available to 10% of the population by 2025.

In a separate article by the news agency quotes Amir Lajevardi, the head of the Communications Regulatory Authority (CRA) as saying that the total number of 5G base stations should rise from a current figure of 800 to 1,200 by 19 March 2024 (i.e., the end of the current Iranian calendar year), and 4,000 by March 2025. The rollout targets were disclosed at the same 5G event in Tehran. (November 3, 2023) The Islamic Republic News Agency

Iraq

Iraq's Communications and Media Commission (CMC) has ordered the country's mobile operators to suspend interconnection with Korek Telecom over the latter's unpaid taxes and license fees. The decision was made on 1 November, with Korek seemingly choosing not to heed the ten-day warning that the CMC issued it on 22 October. CMC boss Ali Al Moayed has indicated that Korek owes fees totaling USD800 million. In other news, the CMC's board of commissioners convened on 31 October to discuss the issuance of a planned fourth mobile license, which will permit 5G technology. The watchdog's press release noted: 'At the meeting, the council members stressed the importance of accelerating the implementation of the Council of Ministers decision to grant the fourth mobile phone license. Late last month it was reported that state-owned Al-Salam Telecommunications Company would be granted a license to manage the country's planned 5G network. Zawya reported that local funds, including the public servants' pension fund and the social security fund, will be allowed to take stakes in the new company, with Iraqi citizens allowed to buy a further 10% of the entity's shareholding.

(November 7, 2023) www.commsupdate.com

Gulf Bridge International (GBI) has announced its partnership with Iraq IXP, extending low-latency services from the Gulf to Iraq. The partnership gives Iraq IXP direct connections with GCC nations and access to GBI's relationships with major service providers, with average latency reductions of 40ms.

(October 6, 2023) www.commsupdate.com

Kuwait

According to sources at Kuwait's Ministry of Communications (MoC), 72% of a first-phase copper-to-fiber network replacement project was completed by September 2023. The MoC's initial-phase copper-to-fiber program covers seven areas – 'Bidaa, Rumaithiya, Salwa, Fintas Agricultural, Salmiya, Ras Salmiya, and the Capital' – and the report added that in one aspect of the project, local access (terminal) equipment replacement had been carried out in 6,060 locations, with 4,000 planned locations remaining. In related work, the MoC is simultaneously developing the 'third phase' of its national fiber-optic network rollout in the current fiscal year, and has reached '85%' completion of the 'design, planning, and study' stage for this project, the report stated. (October 26, 2023) Arab Times

Nepal

Nepal Telecommunications Authority (NTA) has made a new regulation that paves way for it to take back unused frequency spectrum from telecom companies. The newly passed Telecommunication Service Based Radio Frequency Policy has made this provision which was decided a couple of weeks ago. This policy will prevent telcos from hoarding the airwaves and instead encourage them to use the resources. Or else, NTA will bring it back which will free up the spectrum for others to use. The

authority can allocate them to other service providers via spectrum auctions. The authority has received criticism in the past for not doing much about telcos holding the frequency without using them. The committee's meeting chaired by the Communication Minister Rekha Sharma passed the new policy. The meeting revoked the earlier provision which was lenient on telcos for not fully committing to using frequency spectrum after getting them from the authority. This new policy will discourage the act of not operating communication services while just holding the frequency. Likewise, it will ensure the maximum utilization of the frequency and contribute to better service quality. Using the frequencies to their optimum capacity also helps form a competitive telecom market. With this policy, NTA will have the authority to get back the frequencies from telcos that only hold them. However, a member of the committee shared that the authority will allow service providers a six-month period to process the spectrums into the service. "If a company does not comply with the instructions from the authority to provide service by using the unused frequency, it will be automatically returned," a member of the committee said. (November 1, 2023) www.nepalitelecom.com

The Public Accounts Committee (PAC) of the House of Representatives has urged the Ministry of Communications and Information Technology (MoCIT) and the Nepal Telecommunication Authority (NTA) to hold off from selling Smart Telecom's revoked license, recommending that the regulatory bodies stage further discussions regarding the plan. The NTA revoked Smart's license in April this year, over the cellco's failure to pay a NPR20 billion (USD151 million) license renewal fee. the PAC also recommended postponing the planned deployment of the Telecommunication Traffic Monitoring and Fraud Control System (TERAMOCS), as well as the implementation of the Rural Telecommunication Fund. (October 13, 2023) My Republica

Oman

The Telecommunications Regulatory Authority (TRA) has emphasized the importance of activating voice calling over 4G VoLTE (Voice over LTE) networks for mobile users. This comes as a part of the authority's broader initiative to phase out 3G services and transition fully to more advanced network technologies. VoLTE differs from traditional VoIP (Voice over Internet Protocol) services in that it uses the 4G LTE network instead of Wi-Fi to transmit voice data. This technology enables users to make calls using the internet while still utilizing their standard phone numbers. These calls are treated as regular phone minutes by cell service providers, most of whom now support VoLTE. Notably, VoLTE functions efficiently even in areas with a strong data signal. In anticipation of the gradual discontinuation of 3G services starting next year, the TRA is urging users to activate VoLTE on all their devices. This transition is aimed at improving the quality of voice communication over the 4G networks. As 4G technology becomes more prevalent, devices limited to 3G and 2G capabilities will gradually become obsolete. Users of these older devices will likely need to upgrade to newer models that are compatible with the evolving telecommunication services. The TRA's decision to halt 3G services by July 2024 is part of its strategy to optimize the use of natural resources, such as the frequency band spectrum. This move is also seen as an investment in modern technologies, aiming to focus on delivering higher quality services to users. This shift reflects the ongoing global trend towards more efficient and higher-capacity telecommunication networks, marking a significant step in the digital evolution of communication technologies. (November 14, 2023) www.meatechwatch.com

The Sultanate of Oman is moving to regulate international telecom cables either transiting its territorial waters or landing on its shores in a bid to enhance the country's appeal as a global hub for Data Centers and International Connection Services. Over the past year, Oman has seen a proliferation of data centers being established at key locations around the country. Many of these processing hubs take advantage of the international submarine and terrestrial cables connecting Oman with data networks globally. Presently, there are around 21 subsea telecom cables with landing points along the country's shores, with more such cable links in the works. Now, in a bid to regulate this rapidly growing sector, the Telecommunications Regulatory Authority (TRA) has initiated a public consultation on a draft regulatory framework aimed ultimately at laying the groundwork for the robust growth of this key market. Highlighting the importance of the telecom cables sector, the Authority explained: "International submarine and terrestrial cables are critical communications infrastructure for countries around the world and are vital to their national economies. These cables form the backbone of the internet and are essential to the provision of telecommunication services across the commercial, governmental and consumer sectors. The continued development of these sectors, through the attraction of additional capacity and diversity to Oman, is essential to further develop the Sultanate of Oman's position as a global hub and key location for the siting of Data Centers and International Interconnection Services." Draft regulations formulated by the TRA envision a set of guidelines for undertaking, among other activities, surveying, installation, operation, and maintenance and repair of international telecom cables. It also outlines Oman's stance on regulating submarine telecom cables crossing in territorial waters, the exclusive economic zone, or the Strait of Hormuz. Importantly, the Authority is set to have a central role in issuing final approvals related to surveying, installation, operation, maintenance and repair work for international telecom cables on Omani territory or waters. In effect, the issuance of the requisite approvals and permits for

undertaking any international cable-related activities will now be centralized, it said. Furthermore, the new regulatory framework will afford a higher degree of protection for subsea cables transiting Omani waters from potential harm. Due to their size and location on the seabed, these cables are exposed to damage from activities such as the anchoring of ships, some types of fishing, dumping of materials, dredging and mineral exploration, according to the TRA. By regulating the market, the Authority aims to safeguard this vital component of telecom infrastructure that currently links Oman to global communications networks, providing international connectivity while also supporting Internet and telephony services. International telecom cables with cable landing stations are currently operated by Omantel and Ooredoo, although four other telecom companies – TEO, Connect Arabia International, Awasr and Vodafone – have international gateway licenses that allow them to operate in the cable space as well. Telecom companies and other stakeholders have until November 15, to share their feedback on the draft regulatory framework.

(October 29, 2023) www.omanobserver.om

Pakistan

On World Children's Day, Pakistan Telecommunication Authority (PTA) reaffirms its commitment to ensure safety and security of the children of Pakistan in the digital realm. Acknowledging the digital impact on children, PTA is dedicated to ensure a safer internet that meets their educational needs and promotes positive online interactions. PTA has collaborated with Meta, TikTok, the United Nations Children's Fund (UNICEF), and other prominent organizations to pursue the cause of promoting a safer online environment for the youth. Through these partnerships and collaborative efforts, the regulator is striving to create a digital space where children can learn, play, and connect without compromising their personal and digital security.

(November 22, 2023) www.pta.gov.pk

Pakistan is gearing up for the introduction of 5G services by August 2024, according to local news reports citing the Ministry of Information Technology and Telecommunication (MoITT). According to the reports, the ministry has developed and submitted to the caretaker federal cabinet a comprehensive business plan for the launch of 5G services. The plan includes the hiring of an international consultant to advise on the design of an auction of available 5G spectrum as well, as the creation of an inter-ministerial advisory committee to oversee 5G development. The MoITT's proposals were also said to include measures to reduce costs associated with infrastructure deployment, though discussions are ongoing regarding reforms to incentivize participation in the spectrum sale. Similarly, the MoITT stressed that to ensure a fair and competitive environment, no operator should be allocated spectrum without a competitive process in place for spectrum allocation. (October 9, 2023) www.commsupdate.com

Qatar

The Communications Regulatory Authority (CRA) in Qatar has taken a step towards simplifying the process of acquiring a new SIM card by encouraging consumers to utilize a new digital service provided by Ooredoo Qatar and Vodafone Qatar through their digital platforms. This innovative e-service leverages Artificial Intelligence (AI) and facial recognition technologies to facilitate user verification during the digital registration process for telecom services, utilizing Qatar ID (QID) for citizens and residents, or passports for visitors. With this digital service, applicants can have their identities verified, and purchase and payment processes completed entirely online, eliminating the need for them to physically visit the outlets of either of the two service providers. This convenient and efficient service is available for both prepaid and postpaid telecom services, as well as for physical SIM cards and e-SIMs. In the case of physical SIM card orders, the cards will be delivered directly to the applicants. Amel Salem al-Hanawi, the Consumer Affairs Department Director at CRA, highlighted the significance of this digital framework, stating, "We have developed this framework out of our interest in developing Qatar's Information and Communication Technology (ICT) sector to reflect positively on consumers, telecom service providers, and the national economy at large." She further emphasized that this initiative aligns with one of the key goals of the Qatar National Vision 2030 (QNV 2030), which is to strike a balance between oil-based and knowledge-based economies to diversify the Qatari economy and create a stable, sustainable business environment. This move by the CRA not only simplifies the process of obtaining SIM cards but also underscores Qatar's commitment to leveraging cutting-edge technology to enhance its ICT sector and contribute to the broader goals of economic diversification and sustainability outlined in the QNV 2030. Consumers in Qatar now have a more convenient and efficient way to access essential telecom services, thanks to the integration of AI and facial recognition technologies into the digital registration process. (November 13, 2023) www.meatechwatch.com

The Communications Regulatory Authority (CRA) is gearing up for several large-scale international events which will be hosted by the State of Qatar at various venues across the country between October 2023 and March 2024. The international events include the International Horticultural Expo 2023 (Expo 2023 Doha™), the Formula 1® Qatar Airways Qatar Grand Prix 2023, MotoGP Qatar Airways Grand Prix 2023, the AFC Asian Cup Qatar 2023, and the World Aquatics Championships Doha 2024. To ensure the smooth operation of events, CRA has liaised with all relevant stakeholders and local organizers to coordinate different matters related to CRA's scope of work, such as frequency assignment, licensing, monitoring and equipment custom clearance. These efforts have facilitated the development of a robust plan that meets the spectrum requirements for broadcasting, media, event service providers for various radio applications and wireless communication services. This ensures that all stakeholders can operate their radiocommunications equipment and broadcasting systems as required and without interruption due to radio interference. All radio equipment and frequency users must obtain a radio spectrum license or authorization from CRA. Every entity that wants to use radio devices or equipment must register them and submit frequency applications via CRA's Special Events Portal or its e-Spectrum Services Portal. Upon submission, all registrations and applications will be evaluated and processed further for issuance of licenses or authorization upon approval, and on receipt of fee payment, where applicable. Large-scale international events often necessitate the use of a wide range of radio applications and different types of radio equipment, which are used in several fields including broadcasting, safety and security, wireless microphones, in-ear monitors, RF cameras and Radio Local Area Networks (RLANs). Using multiple radio equipment within a limited area creates challenges in meeting all radio spectrum requirements. However, CRA has a proven track record in meeting the requirements of such events, including the FIFA World Cup Qatar 2022™, which will allow CRA to draw on expertise and resources to ensure these international events are managed effectively.

(October 2, 2023) www.cra.gov.qa

Saudi Arabia

The Communications, Space and Technology Commission (CST) publishes the KSA Space Market Investment Opportunities Report, which highlights the Kingdom's space legacy which started in 1976, and the challenges and opportunities in Space market, which are expected to witness a rapid growth, as the report highlighted the market size of Space sector in the Kingdom which reached $400 Million in 2022. The report aims to showcase the promising opportunities in the Space sector, promote investment and fair competition, support Space investors and entrepreneurs. The report sheds light on many opportunities for the development of the Saudi Space market, including spacecraft manufacturing, launch services, and the development of ground segments to enhance its infrastructure, placing the Kingdom as a regional Space hub; in addition to satellite communications, and earth observation through building integrated local systems and developing a multi-sensor satellite infrastructure, as well as Space science & exploration, and emerging space. The report also showcases the growth of the global Space economy with $464 Billion in 2022, which represents a 0.46% of the world's GPD and grows at a fast rate of over %7 per year. It is expected to reach an all-time high of $738 Billion by 2030, due to the expanding investment in Space sector generating $100 Billion in 2022, which is four times more today compared to the early 2000s. (November 8, 2023) www.cst.gov.sa

The Communications, Space and Technology Commission (CST) has published the "Regulations for Providing Digital Content Platform Services" Document as part of its role in regulating digital content platforms and under the Executive Program for Regulating the Digital Content and its Platforms (IGNITE). The document aims to provide the enabling environment to develop the digital content platforms market in the Kingdom, which is expected to exceed Compound Annual Growth Rate (CAGR) with 20% in 2030, as well as attract investments and promote competition; in addition to ensuring transparency regarding the regulations, rules and requirements for service providers. CST pointed out that the document will enhance the quality of services and the user protection, as well as enabling service providers of the digital content platforms in the Kingdom, which will attract qualitative investments and achieve the goals of (IGNITE) project. CST urges Digital content platform service providers to view the document and fulfill the requirements prior the date of entry into force 8 October 2024. (November 5, 2023) www.cst.gov.sa

The Communications, Space and Technology Commission (CST) showcased prominent numbers of the IT and ET market in Saudi Arabia that reached 81 Billion SAR in 2022 and is expected to reach 103 Billion by 2025 during the Digital Technology Forum 2023. The main achievements in technology sector were announced during the forum, including the number of tech companies listed in the stock market which has increased to 18 companies, while the number of the registered tech companies in the "Manassa Tech" platform has surpassed 1000 company, with over 150 local tech products. The Forum highlighted the promising future of the software market with a CAGR up to 11%, which has been a result of CST efforts to raise the efficiency of the local tech products, to be included in the global reports such as Gartner platform and the IDC report, with a total of 20 local tech products reflecting the maturity of technology sector in the Kingdom. The Digital Technology Forum 2023 kicked off under the patronage of H.E. Eng. Abdullah bin Amer Alswaha, the Minister of Communications and Information

Technology and CST Board Chairman, and with the attendance of H.E. Dr. Mohammad bin Saud Altamimi, CST Governor. With the theme "Pioneering Software for a Thriving Digital Economy", the forum presented the main opportunities in software market and its positive impact in digital transformation in various sectors, the enablement of business models in digital economy and the most prominent numbers in the technology sector. The third edition of the forum witnessed the launch of several initiatives and programs, including the announcement of tech companies that have been granted the "Saudi Tech" Membership, which represents a national identity to promote local tech products and enhance their reach locally and globally. Moreover, the forum announced the Low Code Programming Challenge to address technical challenges by utilizing low-code development platforms and tools to create software solutions, applications, and websites without any programming experience. In addition, the winners of Co. Innovation Award were announced, which aims to present the best local tech products developed in collaboration with end-users. It is worth noting that the Digital Technology Forum is an annual event organized by CST, in collaboration with the Communications and Information Technology Ministry, to keep up with the latest trends and changes in the technology sector. This year's forum featured prominent experts in technology and has presented 5 panel discussions and 3 presentations to address the opportunities in software market in the Kingdom, its impact on the development of the digital economy, and the future of software locally and globally.

(October 22, 2023) www.cst.gov.sa

Sri Lanka

Sri Lanka's four mobile operators have launched new network APIs from the GSMA Open Gateway initiative to help developers and businesses ramp up growth of digital services and apps. Bharti Airtel Lanka, Dialog Axiata, Hutchison Telecommunications Lanka (a.k.a. Hutch) and SLT-Mobitel have prioritized and launched three APIs: One Time Password (OTP) Validation, Device Location and Carrier Billing. The Open Gateway framework promises consistent, interoperable access to mobile networks through the Linux Foundation's standards-based CAMARA repository. The APIs give developers and enterprises a standard way to technically and commercially reach Sri Lankans with new digital services and apps that will work seamlessly with all mobile networks in Sri Lanka, as well as overseas where operators have launched the same APIs. Meanwhile, Open Gateway APIs are locally and globally federated, which means developers can reach new subscribers outside of Sri Lanka as Open Gateway coverage grows. The GSMA says over 36 mobile operator groups, representing 214 mobile networks and 60% of mobile connections worldwide, have joined the Open Gateway initiative to date. "We foresee this will indeed open up a new ecosystem for much broader opportunities and collaborations between network operators, developers and enterprises, and at far greater scale accelerate digital service innovations and experiences in the respective markets," said Saumitra Gupta, acting CEO of Hutch. Mobitel chief operating officer Sudharshana Geeganage added, "This will further strengthen the developer community, which is an integral part of the API economy, by facilitating various trusted network services and thereby unlocking opportunities in the global app markets propelling digital economy forward."

(November 1, 2023) www.developingtelecoms.com

Turkey

Cloud Computing and Artificial Intelligence Summit was hosted by the Information Technology and Communication Authority. The event was held in cooperation with BTK Academy and Huawei. Speaking at the event, Mayor Karagözoğlu stated that innovative technologies such as cloud computing and artificial intelligence play a key role in today's digital transformation. He said, "While cloud computing is used to store and process data, optimize business processes and make more optimized decisions, artificial intelligence; It contributes to many areas such as automation, predictive analysis and improvement of customer experiences. "Businesses and institutions can only gain competitive advantage by using these technologies effectively and thus achieve very successful results in the long term." said. Stating that today, artificial intelligence combines machine learning capabilities with cloud-based computing environments to enable intuitive and connected experiences, Karagözoğlu said, "By talking to the digital assistants in our smart devices and assigning them tasks, we establish relationships similar to the communication we establish with a human. This makes our daily life practices easier. This type of artificial intelligence; "It allows users to shop, use smart home systems or listen to a favorite song instantly, and combines seamless artificial intelligence technology and cloud-based computing resources." he said. As BTK, we are working with all our strength to prepare our country and our youth for the digital world of the future. Emphasizing that artificial intelligence and cloud computing together form the foundations of the technology of the future, Karagözoğlu said, "At this point, we are aware of our responsibility to adapt to these technologies and

ensure their production. Our youth will shape Turkey's future as individuals who not only consume but also produce technology. "A youth who understand the value and power of domestic and national production and who do not refrain from giving importance to science and technology will carry our country even further in the international arena." he said. (October 13, 2023) www.btk.gov.tr

United Arab Emirates

The Telecommunications and Digital Government Regulatory Authority (TDRA) has announced the initiation of the Radiocommunication Assembly 2023 (RA-23), in anticipation of the forthcoming World Radiocommunication Conference WRC-23 scheduled to take place in Dubai from November 20 to December 15 of this year. The proceedings of the Radiocommunication Assembly (RA) commenced with an opening speech by H.E. Eng. Mohammad Al Zarooni, TDRA Deputy Director General of the Information and Digital Government Sector, in his capacity as the Dean of the ongoing RA session. In his address, he extended a warm welcome to the leaders and members of the participating delegations, emphasizing the significant role played by the RA. He said: "The significance of these meetings lies in the key role of the RA in adopting resolutions, recommendations, and studies within the Radio Sector of the International Telecommunication Union (ITU-R). The decisions and discussions that the Assembly will produce will shape the framework for vital studies, which will contribute to the development of radiocommunication standards and practices in a way that reflects our commitment to the highest levels of innovation and cooperation. This reflects our unwavering commitment to the highest levels of innovation and cooperation. The tasks addressed in this forum will mark the initiation of a series of actions leading to effective outcomes in the upcoming period, provided that the efforts of the Study Group are directed towards addressing the most critical issues within the context of our mission." Al Zarooni added: "In every meeting held within the RA, everyone assume a profoundly significant humanitarian role, embodying the spirit of a unified and cooperative humanitarian team. Here, the endeavors of nations and sectors converge on all aspects of radiocommunications, reflecting our shared aspirations for development, prosperity, and progress for our communities and humanity at large. This collective effort aims to chart a course toward a future where technology aligns seamlessly with societal needs, all in harmony with the shared spectrum we navigate together." The activities of the first day of the RA also included opening speeches by Her Excellency Doreen Bogdan-Martin, Secretary General of the ITU, His Excellency Mario Maniewicz, Director of ITU Radiocommunication Bureau (BR), and Ms. Carol Wilson, Chair of the Radiocommunication Assembly. In their speeches, they underscored the significance of the RA's work, dedicated to advancing services through cutting-edge infrastructure and technologies that benefit communities and foster economic development. They emphasized that the impact of the RA's efforts resonates globally, contributing no less than other institutions affiliated with the United Nations to the benefit of humanity. Following these speeches, the session engaged in a thorough examination of the RA's agenda. This encompassed discussions on the draft agenda for the RA's launch, the preliminary agenda for its inaugural plenary session, the proposed organizational structure, the draft meeting schedule, the heads of delegations' meeting, and the recommendations for appointing chairs and vice-chairs for the RA, and study groups.

(November 15, 2023) www.tdra.gov.ae

TDRA Youth Council organized an awareness workshop on the upcoming World Radiocommunication Conference (WRC-23), which will be hosted by the UAE from 20 November to 15 December of this year. The workshop aimed to raise awareness about the conference's significance across diverse sectors. It also explored the role of Emirati youth in advancing the success of this global forum, where global leaders and experts convene to discuss on the future of radiocommunications in the years ahead and the revisions planned for the Radio Regulations. Conducted by TDRA Youth Council, the workshop featured informative presentations, interactive sessions, and discussions designed to enlighten participants about the conference's activities and work mechanisms. It also offered insights into the UAE's membership in the International Telecommunication Union (ITU) and highlighted ITU conferences that were either organized or chaired by TDRA in previous years. Furthermore, the workshop emphasized the significance of the UAE hosting this year's conference, provided an overview of the agenda items to be addressed, underlined the role it plays in influencing technological advancement, and explored the implications of the conference's ultimate decisions. Commenting on the workshop, Eng. Mohammad Bushlaibi, chair of TDRA Youth Council, said: “This workshop reflects TDRA's dedication to actively involving young people in crucial global discussions and supporting them in leveraging the opportunities that such events offer as they prepare to become the next generation of leaders and innovators. We are pleased with the extent of engagement and interaction observed throughout the workshop, which fostered profound dialogues regarding the ICT sector's role in influencing the course of global transformations. The focus remained squarely on radiocommunications and their regulations, examining their impact on the present and future of the digital society and knowledge economy." World Radiocommunication Conferences (WRC) are held every four years to review, and, if necessary, revise the Radio Regulations, the international treaty governing the use of the radio-frequency spectrum and the geostationary-satellite and non-geostationary-satellite orbits. The upcoming conference, set to take place at the Dubai World Trade Center in Dubai, UAE, will host 4,000 delegates from 193 countries. These delegates will represent government authorities, telecommunications regulatory bodies, and key players in the radiocommunications sector, along with its primary suppliers. Their primary objective is to engage in vital technical and regulatory discussions of global significance.

(November 8, 2023) www.tdra.gov.ae

REGULATORY ACTIVITIES BEYOND THE SAMENA REGION

Argentina

Argentina staged its long-awaited 5G spectrum auction, generating a total of USD875.091 million from the sale of three 3.5GHz spectrum lots. The National Communications Agency (Ente Nacional de Comunicaciones, ENACOM) has announced the winning bidders as follows:
Lot 1: Claro Argentina (100MHz in the 3300MHz-3400MHz band; USD350.052 million).
Lot 2: Telecom Argentina (100MHz in the 3400MHz-3500MHz band; USD350.026 million).
Lot 3a: Unsold.
Lot 3b: Telefonica Argentina (50MHz in the 3550MHz-3600MHz band; USD175.013 million).
Each license is valid for 20 years and the winning bidders have been given a five-stage rollout schedule which will see all towns that are home to at least 30,000 inhabitants receive 5G access within seven years (i.e., by October 2030). (October 25, 2023) www.commsupdate.com

Armenia

Telecoms regulator PSRC has extended the telecoms operating license of domestic operator Ucom for another 15 years. The decision was taken at the PSRC's latest session, held on 15 November, and also included a separate decision to extend the telco's rights to use a number of radio frequencies for another ten years. 'Today's decisions of the commission impose certain obligations on our company, which we must implement,' Ucom CEO Ralph Yirikian is cited as saying. 'I would like to warn our subscribers that for this reason, until about the end of the year, there may be some disruptions in the network, a decrease in the quality of communication in Yerevan, Ararat and Armavir regions, a little in Kotayk. This is being done so that in the near future we will have a more modern, a more innovative, higher quality system,' he added. Further modernization programmes will be carried out across the regions during the course of 2024. In addition, the official noted that as part of the license extension, Ucom will be required to invest AMD500 million (USD1.2 million) in the development of its fixed and mobile networks in the regions.
(November 20, 2023) Arka News

Australia

The Australian Communications and Media Authority (ACMA) has completed the allocation process for area wide licenses (AWLs) in the 3.4GHz–4.0GHz band covering remote areas of Australia. Confirming the development, the regulator revealed that a total of 31 companies had applied for spectrum, all of which successfully secured frequencies. According to the ACMA, the licenses have been issued to 'resource companies, companies providing public and private telecommunications services and government organizations'; while it did not list the recipients in detail, it has said it intends to publish full details of the new concession holders to its Register of Radiocommunications Licenses. With AWLs being service and technology-flexible, the concessions are categorized as being suitable for small, localized services as well as nationwide networks. As such, the ACMA has said it expects the newly-issued licenses to support 'a wide range of innovative business cases, including broadband services for remote communities, health and safety applications, autonomous operation and monitoring, telemetry and robotics and augmented reality'. Of note, the awarding of these AWLs for spectrum in remote areas is the first tranche of allocation activity undertaken as part of the ACMA's wider release of mid-band spectrum. Specifically, the regulator is in the process of preparing an auction for spectrum licenses in the 3.4GHz and 3.7GHz bands for metropolitan and regional areas (expected to take place in Q4 2023), and the administrative allocation of AWLs for 3800MHz-3950MHz spectrum in metropolitan and immediate surrounding areas as well as 3750MHz-3950MHz frequencies in 'other regional areas' (expected Q1 2024). (November 17, 2023) www.commsupdate.com

A total of AUD37.2 million (USD23 million) in funding has been awarded under the 'Improving Mobile Coverage Round' ('IMCR') of the government's 'Mobile Black Spot Program', the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA) has announced. With the IMCR having attracted AUD28.8 million in industry co-investment, it was confirmed that the government grants will enable the construction of 41 new base stations to improve mobile coverage at 42 target locations. Meanwhile, although it was confirmed that the IMCR did not result in solutions for twelve target locations, the government has suggested that four areas will benefit

from coverage improvements through projects that are already approved and funded across the 'Regional Connectivity Progam' and 'Peri-Urban Mobile Program', or through commercial solutions. Commenting on the development, communications minister Michelle Rowland said: 'These successful grant outcomes will deliver improved coverage and quality of service for regional and remote communities, motorists and tourists in 42 target areas.' She added: 'The [IMCR] is a small part of our government's work to improve regional communications, and comes in addition to our AUD1.1 billion Better Connectivity Plan – the most significant investment in regional communications since the inception of the NBN.' (October 23, 2023) www.commsupdate.com

Brazil

The Board of Directors at Brazil's National Telecommunications Agency (Anatel) has approved the allocation of 120MHz of spectrum in the 4.9GHz band for 5G use. The spectrum in question – which encompasses the 4830MHz-4950MHz range – will be made available on a primary and non-exclusive basis. In doing so, the watchdog has increased the amount of available mobile spectrum between 1GHz and 6GHz from 1060MHz to 1180MHz. Despite the move, Anatel counsellor Moises Moreira noted that there are no immediate plans to stage an auction of the 4.9GHz frequencies. (November 1, 2023) www.commsupdate.com

Bulgaria

The Communications Regulation Commission (CRC) of Bulgaria has issued a notification via its website on the issuance of three 15-year mobile licenses for the use of radio frequency spectrum in the 700MHz band, along with three licenses in the 800MHz band, all with national coverage. The awards are being carried out pursuant to Art. 91, para. 1 and application with entry No. 08-01-436/18.10.2023, supplemented by entry No. 08-01-436-1/19.10.2023 (submitted by A1 Bulgaria), it said. In the CRC notification dated 24 October, the telecoms industry regulator stated: 'With this decision, the Communications Regulatory Commission implements the provisions of Decision No. 699/04.10.2023 of the Council of Ministers and creates prerequisites for the implementation of Reform 2 C7.R2. Effective use of radio frequency spectrum from the Recovery and Resilience Plan regarding the allocation of radio frequency spectrum in the 700MHz and 800MHz bands.' In short, the CRC plans to issue the following bandwidth at 700MHz:

• one license covering frequency bands 703MHz-713MHz/758MHz-768MHz (2×10MHz)
• one license covering frequency bands 713MHz-723MHz/768MHz-778MHz (2×10MHz)
• one license covering frequency bands 723MHz-733MHz/778MHz-788MHz (2×10MHz).

Alongside this, the regulator will issue the following allocations in the 800MHz band:

• one license covering frequency bands 791MHz-801MHz/832MHz-842MHz (2×10MHz)
• one license covering frequency bands 801MHz-811MHz/842MHz-852MHz (2×10MHz)
• one license covering frequency bands 811MHz-821MHz/852MHz-862MHz (2×10MHz).

In April this year the CRC adopted the results of the public consultation held on the draft Position of the CRC regarding the prospects and conditions for using the free resources in the 700MHz and 800MHz frequency bands. At the time it noted that it had received comments from Yettel Bulgaria, A1 Bulgaria, Vivacom and Ericsson Telecommunications Bulgaria. All three mobile operators expressed interest in acquiring spectrum in the 700MHz and 800MHz bands after conducting tests in partnership with the Air Force in January and March 2023.

(October 26, 2023) www.commsupdate.com

Canada

The Canadian Radio-television and Telecommunications Commission (CRTC) has issued a decision requiring large fixed telecoms network operators in Ontario and Quebec to provide smaller competitors with access to fiber-to-the-home (FTTH) networks within six months. The CRTC is setting the interim rates that competitors will pay when selling services over these networks, and says that these rates 'were chosen to allow Canada's large internet companies to continue investing in their networks to deliver high-quality services to Canadians,' while noting that in Ontario and Quebec 'competition has declined most significantly', demonstrated by the statistic that independent wholesale-based competitors served 47% fewer subscribers in Ontario and Quebec at the end of 2022 than they did two years prior (partly due to several competitors having been acquired by larger broadband providers). In issuing its decision on 6 November the CRTC stated that the six-month period will 'allow companies to prepare their networks, and to develop information technology and billing systems'. Major telco Bell Canada responded negatively to the announcement, however, issuing a statement that it plans to cut capital expenditure and reduce high speed fiber internet expansion due to the

CRTC decision 'that discourages network investment'. Bell says it will reduce planned network investment by over CAD1 billion (USD732 million) in 2024-25, including a minimum of CAD500 to CAD600 million next year 'as a direct result of the CRTC decision', which it claims 'leaves access to high speed fiber internet at risk for millions of Canadians in rural, suburban and urban communities'. The reduction is in addition to Bell's earlier decision to decrease its 2023 CAPEX budget by CAD100 million in anticipation of the CRTC ruling. Bell – currently operating a fiber broadband network covering over seven million homes and businesses – notes that its near-term plan was to extend direct fiber access to nine million premises by the end of 2025, but it will now reconsider pending builds in all communities where it had planned to expand, and will reduce its 2025 build target to 8.3 million locations. Furthermore, Bell called the CRTC's order to open up fiber networks in Ontario and Quebec but not in western Canada 'arbitrary', given that 'there are over three million fiber locations passed in western Canada' (led by rival telco Telus), arguing that if the intent of the decision was to benefit consumers, then it was 'capricious to leave western Canadian consumers behind.' In March 2023 the CRTC issued a decision lowering certain wholesale fixed broadband internet access fees by 10%, whilst launching a public consultation to reassess wholesale rates more broadly, with the aims of supporting increased competition, more choice for end users and lower retail prices. The regulator's review remains ongoing, with public hearings scheduled to start on 12 February 2024.

(November 7, 2023) www.commsupdate.com

Chad

The Regulatory Authority for Electronic Communications and Post (L'Autorite de Regulation des Communications Electroniques et des Postes, ARCEP) has suspended the deployment of fiber-optic cable throughout the entire country until further notice. The regulator issued a direction on the subject in late October after observing the 'anarchic' deployment of fiber infrastructure in the capital, N'Djamena, by ISP and mobile operators. ARCEP added that new fiber rollouts are subject to its approval following a review of the proposed plans for the deployment. (November 10, 2023) www.commsupdate.com

Chile

Telecom regulator Subtel has published the outline of a new 5G public tender that, it says, "seeks to continue providing better connectivity to the country and be a contribution to the reduction of the digital divide". The sale will be of a number of blocks that add up to 50 MHz in the 3.5GHz band. There will be one to five public telecommunications service concessions of not less than 10 MHz each. The concessions will have a duration of 30 years. The airwaves do not make up a continuous block. Thus, Subtel will rearrange the 3400MHz-3600MHz band upon the completion of the tender so that the blocks awarded in the auction are "continuous, and that the rest of the blocks granted in [this] band are left with the least dispersion and greatest possible continuity". As for winners, it's not a matter of who bids the most, it seems. Applicants will be evaluated and given scores. Subtel says: "This evaluation aims to determine which of all the competing applications offer the best technical conditions that ensure optimal transmission or excellent service, which will be measured by the deployment time of the network, the population benefited, the coverage (communal and complementary) committed and the new infrastructure installed." However, a tie will be resolved through a bidding mechanism. This is, of course, a short version of the rules, which take up many pages of the Subtel website. Companies have a few months to read them, however. Interested companies can apply from 16 January 2024 but, presumably, before 24 January when applicant envelopes will be opened.

(October 19, 2023) www.developingtelecoms.com

Colombia

The Ministry of Information Technologies and Communications has announced that it has verified four would-be bidders ahead of its planned multi-band spectrum auction. The registered bidders are as follows: Claro Colombia; Partners Telecom Colombia (WOM); the network-sharing JV between Tigo and Telefonica; and Sociedad Futura Telecall Colombia. The auction will comprise spectrum in the 700MHz, 1900MHz, Extended AWS, 2500MHz and 3500MHz bands. The participants will be rubberstamped on 4 December and the auction is earmarked to commence on 20 December. According to unconfirmed press reports, Sociedad Futura Telecall Colombia is an affiliate of Rio de Janeiro-based B2B operator Telexperts Telecomunicacoes (Telecall). The Brazilian Telecall, which operates fiber-optic backbone networks in Sao Paulo and Rio de Janeiro, launched MVNO services in 2019 and went on to deploy an MVNA platform, which has supported the launches of more than 30 virtual operators.

(November 15, 2023) www.commsupdate.com

The Ministry of Information Technologies and Communications has issued Resolution 3947 of 2023 ahead of the country's multi-band 5G spectrum auction on 20 December. The Resolution incorporates adjustments made by MinTIC after it received almost 500 comments from industry stakeholders in relation to its earlier consultation. Notably, the new Resolution has set a USD317.717 million reserve price for each of the four 80MHz blocks of 5G-suitable 3.5GHz spectrum. As previously announced, the watchdog will auction spectrum in the following bands: 700MHz (10MHz block), 1900MHz (10MHz), Extended AWS (30MHz), 2500MHz (30MHz) and 3500MHz (320MHz).

(October 25, 2023) www.commsupdate.com

Estonia

The Consumer Protection and Technical Regulatory Authority has launched a public consultation to discover if there is market demand for spectrum in the 410MHz-450MHz range. The watchdog says the band is particularly suited for Internet of Things (IoT) applications. Depending on the results of the consultation, the issuing of frequency licenses is initially planned to be held in 2024. Erko Kulu, head of the TTJA's frequency management department, commented: 'With the discussion, a public competition is being prepared in order to use a frequency band that will create an opportunity to create a separate Internet of Things network in Estonia. Through it, for example, operators of energy, water, gas or other critical utilities could be offered communication services based on IoT/M2M technologies for operating, managing, managing the infrastructure, etc. It would also be suitable for communication networks that work with smaller data volumes.'

(October 20, 2023) www.commsupdate.com

Germany

The Federal Network Agency (FNA) is considering issuing fines to the country's mobile network operators (MNOs) over their failure to meet coverage requirements of the 2019 multi-band spectrum auction. According to a letter from the FNA seen by the Deutsche Presse-Agentur (dpa), the regulator initiated fine proceedings against Telekom Deutschland (TD), Telefonica Deutschland (O2) and Vodafone Germany back in September. The trio reportedly failed to supply 500 underserved 'white spots' areas with mobile data speeds of up to 100Mbps by the December 2022 deadline, and also failed to fulfil coverage obligations concerning federal traffic routes. Previously, where these targets could not be fulfilled, operators have blamed delays on a lack of building permits, a need for third parties' involvement, a lack of public acceptance for new cell phone sites, and nature conservation requirements. The companies can now submit statements on the matter and a final decision will be made by the FNA next year.

(November 23, 2023) www.commsupdate.com

Guyana

The Public Utilities Commission (PUC) has confirmed that the implementation of number portability (NP) is progressing, with operators about to enter a final testing period before the service is made available to the public. The PUC explained in a statement that service providers Guyana Telephone and Telegraph Company (GTT), Digicel Guyana and ENet are working with the watchdog to ensure that the NP process is 'seamless and efficient'. The regulator described the introduction of NP in Guyana as a 'transformative step' towards enhancing telecommunications services, adding: 'It empowers consumers and businesses by putting them in control of their telecommunications choices, and this will herald a new era of innovation and customer-centric service within the telecommunications industry.' Information for consumers regarding the new offer and any changes to their service will be distributed by the trio of providers. (October 31, 2023) www.commsupdate.com

India

The Department of Telecommunications (DoT) has made a decision on the country's next multi-band 5G mobile spectrum auction scheduled for January 2024, apparently scrapping previous proposals to add any new frequency bands, and keeping the same base prices and conditions as the previous 5G auction concluded in August 2022. Unallocated frequencies in bands including 700MHz, 800MHz, 1800MHz, 2100MHz, 3.5GHz and 26GHz are earmarked for sale in January with an approximate total value of INR2.65 trillion (USD31.83 billion), although the actual level of bidding interest from mobile operators is currently unclear. The report states that the Telecom Regulatory Authority of India (TRAI) has declined to provide base bidding prices for any new frequency bands or fresh reserve prices for any of the spectrum bands already in use by cellcos. The DoT had previously pushed for new bands to be offered via the auction including 37GHz

millimeter wave (mmWave) frequencies as well as the 3.7GHz-4.2GHz band, the L-band (1427MHz-1518MHz) and the 470MHz-582MHz band. India's multi-band 5G spectrum auction of summer 2022 concluded with Reliance Jio Infocomm (Jio), Bharti Airtel, Vodafone Idea (Vi) and Adani Data Networks spending a total of INR1.5 trillion on frequencies in the 700MHz, 800MHz, 1800MHz, 2100MHz, 3.5GHz and 26GHz bands. The next auction is scheduled near to the expiration dates of certain Airtel and Vi licenses in circles such as West Bengal, Assam, Bihar and Odisha.

(October 17, 2023) , The Economic Times

The Supreme Court has agreed to hear petitions filed by mobile providers Bharti Airtel and Vodafone Idea (Vi) regarding the alleged miscalculation of their Adjusted Gross Revenue (AGR) dues. The dispute dates back to the apex court's October 2019 decision to uphold the Department of Telecommunications' (DoT's) definition of AGR – the figure upon which various license and spectrum fees are based – which included revenues from non-telecom sources. The decision included a demand for licensees to pay a decade's worth of backdated dues plus penalties and interest (including interest on the penalties) within three months but, crucially, did not specify the exact amounts owed. Exacerbating the issue, the Supreme Court refused to provide clarification on its instructions, treating any such requests as attempts to circumvent its order. As such, the DoT hastily scrambled to calculate the dues owed by each operator, and the amounts it originally asked for were substantially higher than the self-assessments carried out by the telcos. According to the providers, the DoT had made arithmetical errors in determining the amount owed which were then made worse by the application of interest and additional fees. Airtel, for example, estimated that it owed around INR130 billion (USD1.56 billion) but the DoT sought INR440 billion from the operator. Requests filed by the operators to correct these mistakes were rejected by the Supreme Court in mid-2021. (October 10, 2023) The Financial Express

Indonesia

Indonesian mobile network operators (MNOs), working in tandem with the Ministry of Communication and Informatics (MCI), have established a task force charged with coming up with new ideas and incentives to accelerate the implementation of 5G technology in Indonesia. IndoTelko writes that the task force is particularly interested in seeking a new formula 'to balance technical, technological and financial issues'. Specifically, the financial red tape concerns the Non-Tax State Revenue (PNBP) derived from the 5G frequencies that will be allocated to MNOs. Under the current framework, telecoms operators include frequency-related PNBP payments as 'regulatory charges' which are currently equivalent to 11%-12% of annual revenue (or 14%-15% if there are additional managed frequencies). However, the MNOs argue that in order to retain their profitability levels that figure needs to be capped at <10% and, as such, are requesting this incentive as part of the MCI's 'Draft Ministerial Regulation (RPM) concerning the Use of Radio Spectrum in the 700MHz and 26GHz Frequency Bands'. It is understood that the ministry is freeing up 90MHz of 'digital dividend' spectrum in the 700MHz band that was previously used for analogue broadcasting. Meanwhile, the 26GHz frequency band is currently still 'idle', so theoretically it could be used for mobile broadband. (November 17, 2023) www.commsupdate.com

The Ministry of Communication and Informatics (MCI) plans to auction 5G-suitable mobile spectrum in the 700MHz and 26GHz bands in the near future in a bid to make the nation's 5G internet speed 'closer to developed countries. Having carried out a public consultation 'Draft Regulation of the Minister of Communication and Information on the Use of the Radio Frequency Spectrum in the 700MHz Radio Frequency Band and the 26GHz Radio Frequency Band', the ministry aims to auction off bands in the 703MHz-748MHz (FDD) range paired with 758MHz-803MHz, alongside 26GHz (TDD) spectrum in the 24.25GHz-25.85GHz band 'for the purposes of providing cellular mobile networks.

(October 9, 2023) www.commsupdate.com

Italy

The Italian government has rejected an alternative proposal from a group of minority shareholders of Telecom Italia (TIM) regarding the downsizing of its operations. Rome has reaffirmed its commitment to the previously agreed plan under which it will partner US investment company Kohlberg Kravis Roberts & Co (KKR) to acquire TIM's networks business NetCo. Media quotes a government source as saying: 'Any other initiative is not part of the government's intentions.' TIM had earlier confirmed that it had received a rival proposal from Merlyn Advisors and RN Capital Partners, which represent less than 3% of TIM's share ownership. Reuters says the alternative plan would see TIM retaining its domestic networks business and instead selling its Italian retail operations, as well as its Brazilian subsidiary TIM Brasil. TIM's largest shareholder, Vivendi

of France, is known to dispute KKR's EUR23 billion (USD24 billion) valuation of NetCo. The telco's board is due to discuss the proposals in a series of meetings later this week. (October 30, 2023) www.reuters.com

The Communications Regulatory Authority (Agcom) has announced its approval of a plan by incumbent PSTN operator Telecom Italia (TIM) to decommission 1,342 copper fixed line network exchanges. The regulator's press release confirms that all these exchanges complied with requirements regarding local next-generation access (NGA) network coverage and copper-to-fiber customer migration rates, enabling TIM to begin the process of shutting down wholly copper-based fixed voice and xDSL broadband internet services in each exchange area. The watchdog added that customers will be migrated 'in almost all cases' to fiber-to-the-home (FTTH) 'or mixed fiber-copper fiber-to-the-cabinet [FTTC]', or, 'in marginal cases, the mixed fiber-wireless network (Fixed Wireless Access)'. The major batch of copper exchange shutdown approvals follows an initial smaller tranche of 62 TIM exchanges previously evaluated and approved for decommissioning by the watchdog. TIM submitted proposals for shutdowns/migrations in 2017 – covering over 6,000 of its roughly 10,000 fixed telecoms exchanges, with Agcom finalizing rules governing the process in 2019. TIM's FTTC/FTTH network footprint covered over 89% of Italian households by August 2023, with FTTH alone spanning 33% (up from 28% a year earlier). TIM's majority-owned FiberCop last-mile networks venture includes rival ISP Fastweb and US investment firm KKR as fellow investors.

(October 9, 2023) Agcom

Japan

Rakuten Mobile announced that it has received the necessary approval from the Ministry of Internal Affairs and Communications (MIC) to forge ahead with its 'special base station deployment plan' for 700MHz 'Platinum Band' spectrum. With the go-ahead secured, Rakuten Mobile plans to begin building a mobile network utilizing the 700MHz band in order to provide 'even higher-quality mobile service to customers. While the dates set forth in the deployment plan take into account timelines for a range of preparations required for operations, preparations are underway with the aim of launching operations as soon as possible. In the wake of receiving the green light from the MIC, the cellco's parent, Rakuten Inc., released a separate statement confirming its intention to invest JPY54.4 billion (USD362.81 million) to build out the new base stations, as it strives to invigorate the fortunes of its mobile phone business which has so far struggled to make inroads into a market dominated by three entrenched incumbents. Rakuten aims to deploy 10,661 700MHz base stations and expects its cellphone business to turn profitable in 2026. The company is sticking to a plan to reduce capital expenditure by about JPY300 billion between 2023 and 2025, a spokesperson is quoted as saying.

(October 24, 2023) www.reuters.com

Jersey

Plans for a secondary allocation of 5G-suitable spectrum have been delayed by the Jersey Competition Regulatory Authority (JCRA). Earlier this year the JCRA accepted applications from JT Jersey and Sure Jersey for two of the three 'Full Service' 5G spectrum packages it had put up for grabs, before in April 2023 recommending to British regulator Ofcom – which is responsible for managing Jersey's radio spectrum – that the two operators be awarded frequencies. In the wake of these developments, the JCRA had said that it intended to conduct a second invitation to tender (ITT) process this year for 5G spectrum for the frequency package left over from the initial award process. Now, however, it has said that after 'careful consideration', it has decided to delay this second ITT for 5G spectrum until after it concludes its examination of the proposed merger between Sure and Airtel-Vodafone. According to the JCRA, its decision to delay 'will help avoid the risk of potentially inefficient spectrum allocation'.

(November 2, 2023) www.commsupdate.com

Kenya

The National Treasury has announced that, following an evaluation process, it has recommended that Infrastructure Corporation of Africa (ICA) acquire a majority stake in Telkom Kenya. The Kenyan government agreed to buy a 60% shareholding in Telkom Kenya from Jamhuri Holdings/Helios Investment Partners last year, following a decision by the private equity firm to exit the telecoms operator. The government subsequently decided to amend the transaction to enable another private investor to acquire the 60% shareholding from Helios. A competitive process to identify the new investor was launched in January 2023, resulting in an

evaluation process that recommended UAE-based ICA, based on the offer they put forward. The offer includes a capital injection to fund Telkom's critical infrastructure and the overall upgrade of the company's capabilities, and will also settle some of the outstanding liabilities of the company. For its part, the government, through the National Treasury, said it will meet its obligations as a minority shareholder and as a key consumer of services offered by the company. Further, the government said that it will pursue regulatory reforms 'to correct the structural imbalance in the telecommunications industry for the benefit of all stakeholders. In order to complete the process of onboarding ICA, the government will work with Helios to transfer the 60% shareholding directly to ICA; this process will require the rescinding of the transaction documents already signed between the government and Helios, among other necessary actions. (October 5, 2023) www.commsupdate.com

Latvia

Telecoms watchdog the Public Utilities Commission (SPRK) has confirmed the results of last month's auction for 5G-suitable spectrum in the 3750MHz-3800MHz range, and awarded the rights to Tele2 Latvia and Latvijas Mobilais Telefons (LMT). LMT was awarded the frequencies at 3750MHz-3775MHz whilst Tele2 claimed the 3775MHz-3800MHz block, with both companies submitting bids of EUR275,000. The licenses are valid for 20 years, from 1 January 2024 to 31 December 2043. The tender was completed in October, but the results of such auctions are subject to a final review and approval by the SPRK before being made public.

(November 10, 2023) www.commsupdate.com

Malawi

The Communications Regulatory Authority (MACRA) has announced that it has given Access Communications Limited (ACL) a deadline of 31 December 2023 to pay its outstanding license fees or face the revocation of its concession. The fixed and mobile operator initially owed the regulator MWK703.85 million (USD615,800), although the current balance now stands at MWK698.29 million. In addition, MACRA states that a second company – Afrimax – has been given a deadline of 27 December 2023 to pay off its debt of MWK196.27 million or face the withdrawal of its operating license.

(November 3, 2023) www.commsupdate.com

Malta

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(November 3, 2023) www.commsupdate.com

Mauritania

Mauritania's three mobile network operators (MNOs) are once again facing penalties for failing to meet network Quality of Service (QoS) thresholds. The country's Regulatory Authority (Autorite de Regulation, ARE) carried out monitoring between 1 August and 7 September and has reported failings for Mattel, Moov Mauritel and Chinguitel as follows:

Mattel: 29 cities and towns for the voice test, 16 cities for the 3G data test, eleven cities for the 4G data test, ten main roads

Moov Mauritel: 33 cities and towns for the voice test, 20 cities for the 3G data test, 13 cities for the 4G data test, eleven main roads

Chinguitel: 22 cities and towns for the voice test, 17 cities for the 3G data test, nine cities for the 4G data test, nine main roads.

The trio of operators have been given 30 days to comply with QoS commitments in the noted areas or they could face fines. One local press report says the fines could be the highest ever handed out by the regulator.

(October 3, 2023) www.commsupdate.com

Mexico

The Federal Telecommunications Institute (IFT) has included spectrum in the 400MHz and 800MHz bands in its Annual Program for the Use and Exploitation of Frequency Bands 2024 (Programa Anual de Uso y Aprovechamiento de Bandas de Frecuencias 2024, PABF 2024). The 415MHz-420MHz/425MHz-430MHz and 806MHz-814MHz/851MHz-859MHz bands have been set aside for trunking services, while the 824MHz-849MHz/869MHz-894MHz band is designated for use by mobile communication services ('social use'). The inclusion of the aforementioned spectrum bands in PABF 2024 reflects requests that the IFT received between 1 November 2022 and 30 June 2023.

(November 20, 2023) www.commsupdate.com

Mozambique

The National Institute of Communications (INCM) has launched its 'Internet in Schools' project as part of a public-private partnership with the SpaceX satellite broadband service Starlink. The scheme aims to connect around 300 educational establishments across the country. Starlink was launched for private customers in Mozambique in June this year.

(October 31, 2023) www.commsupdate.com

Namibia

The Communications Regulatory Authority of Namibia (CRAN) has awarded 5G licenses to mobile network operators Telecom Namibia (TN) and Mobile Telecommunications Company (MTC), and local ISP Loc8 Mobile following the regulator's auction of 700MHz and 800MHz spectrum last week, which generated approximately NAD28.6 million (USD1.47 million). Loc8 Mobile paid NAD5.1 million to secure Lot A (2×20MHz, 703MHz-723MHz/758MHz-778MHz, reserve price NAD4.4 million), TN won Lot B with a bid of NAD15.4 million (two blocks of 2×10MHz, 723MHz-733MHz/778MHz-788MHz and 791MHz-801MHz/832MHz-842MHz, NAD5.1 million), while TN paid NAD15.4 million for Lot C (2×20MHz, 801MHz-821MHz/842MHz-862MHz, NAD6.5 million). The permits are valid for ten years and can be renewed for a similar period. The licensees must use the assigned frequencies to provide 4G and 5G mobile services with a downlink data speed of no less than 20Mbps and in compliance with quality of service (QoS) regulations. The rollout obligations also require them to improve 4G population coverage to 80% or higher in six regions, namely Kunene and Zambezi (Lot A), Otjozondjupa and Omaheke (Lot B), Hardap and Kavango West (Lot C). Emilia Nghikembua, CEO of CRAN, explained in a statement that the award of the 4G/5G spectrum licenses is intended to enable the rollout of emerging mobile technologies while supporting both universal access in rural areas and digital inclusion. She further stated that the regulator has approved the testing/trial of 5G services/networks for a period of three months until 31 December. MTC has already expressed its readiness to deploy 5G services. (October 3, 2023) www.commsupdate.com

The Netherlands

The National Inspectorate for Digital Infrastructure (RDI) under the Ministry of Economic Affairs & Climate Policy (MEACP) has announced that 3.5GHz spectrum licenses will be available for local, private 5G networks from 1 December 2023, aimed at enterprise users such as industrial sites and other businesses with their own private communications network. Localized 5G networks – unconnected to public mobile infrastructure – will be utilized for secure communications and business processes and a variety of on-premises applications via the private owners' licensed frequencies, with examples given by RDI such as controlling smart, complex devices including factory robots and autonomous vehicles or virtual reality-based facilities. Licenses will be valid until 31 December 2040. RDI's announcement notes that under the government's licensing strategy: 'Companies are assisted with their license applications on a first-come, first-served basis, but new applicants have the same rights to frequency use as their neighbors, who may already have a license.' RDI adds that this means 'companies with a permit must take into account the obligation of mutual cooperation.' Two 50MHz blocks of 3500MHz band spectrum are available for local wireless applications of companies and organizations, separate from the 300MHz tranche of 3.5GHz airwaves earmarked for the Netherlands' 5G nationwide mobile spectrum auction, which the government hopes to launch in Q1 2024 having recently reached an in-principle agreement to relocate satellite services occupying the band, while court hearings on appeals against the 5G licensing policy began last month. In April 2023 Schiphol Airport and the Port of Rotterdam filed lawsuits against the MEACP's 3.5GHz policy, arguing that the first-come, first-served method of distributing local/private 5G spectrum could prevent them from securing their required bandwidth, while the Port also claimed the frequencies reserved for parties other than mobile operators were of lower quality, potentially disrupting its development of 5G applications e.g. autonomous shipping and data processing via IoT sensors in the port.

(November 10, 2023) www.commsupdate.com

New Zealand

The Commerce Commission has released its draft determination on the allocation of payments for the government's Telecommunications Development Levy (TDL) for the period covering 1 July 2022 to 30 June 2023. The regulator proposes that mobile network operators Spark, One and 2degrees and wholesale fixed line provider Chorus collectively pay 87% of the NZD11.25 million (USD6.55 million) levy, with the remainder divided among other liable providers. Stakeholders have until 9 November to submit their feedback. The Commission expects to release its final determination in early December. The TDL is paid by providers earning more than NZD10 million per year from telecommunications services, including internet, mobile, and data services. The government uses the funds collected by this levy to pay for telecommunications infrastructure and services that are not commercially viable, including the relay service for the deaf and hearing-impaired, broadband for rural areas, and improvements to the 111-emergency service. (October 26, 2023) www.commsupdate.com

Nigeria

The Nigerian Communications Commission (NCC) has announced that it has restored regulatory services to telecoms operator Globacom. The move comes after the firm successfully cleared its outstanding debt obligations to the regulator for unpaid spectrum and numbering fees, and the annual operating levy. The NCC says it has also stepped down planned enforcement actions against Globacom over its breach of regulations by failing to pay its debts despite several demand notices. The NCC had temporarily withdrawn the suspension of regulatory services to Globacom in a letter dated 22 May 2023. (October 17, 2023) www.commsupdate.com

Norway

The National Communications Authority (Nkom) has reported that 96.6% of the country's residential households and 95.9% of businesses now have access to a fixed broadband service offering downlink speeds of 100Mbps or more. In publishing the findings of its most recent broadband coverage survey, the watchdog noted that rural areas have experienced the greatest improvement – 82.2% of homes now have access to 100Mbps-plus speeds, up from 71.5% in 2022. By comparison, 99.4% of homes in densely-populated areas now enjoy a minimum 100Mbps service at the aforementioned downlink speed, up from 98.0% in 2022. Nkom also confirmed that gigabit broadband is now available to 95.1% of Norwegian homes, compared to 92.5% in 2022, with 98.6% of premises in urban areas and 77.0% of rural homes having such access, up from 96.9% and 70.4%, respectively, in 2022. Despite these coverage improvements, Nkom notes that around 85,000 premises are still unable to access a fixed broadband service offering 100Mbps download speeds. According to the regulator, around 12,000 of these are in 'commercially attractive' areas where government support is unlikely to be needed. A further 24,000 premises are expected to gain coverage via support being offered under a 5G discount scheme, while 15,000 homes will be covered by schemes in 2024 which have already been allocated government funding. To reach the final 34,000 premises, Nkom has suggested that state will need to invest between NOK580 million and NOK860 million (USD53 million-USD78 million) in 2025. (November 6, 2023) www.commsupdate.com

Peru

The Ministry of Transport and Communications (MTC) has scrapped plans to reorganize the 800MHz band for 4G services, citing uncertainty regarding the device ecosystem for the band. The MTC claimed that limited exploitation of the band for 4G services elsewhere led to a risk of there being insufficient economies of scale for network equipment in the short and medium term and questioned the availability of compatible terminal equipment. As such, the ministry explained that the reorganization of the band might not lead to more efficient use of the spectrum and cancelled the process. The MTC began the process in November last year as the current assignment of the spectrum is non-contiguous and not uniform at the regional or national level, making it ill-suited for the provision of advanced services. (November 2, 2023) www.commsupdate.com

Philippines

The Philippines' Court of Appeals (CA) has dismissed a legal case brought by NOW Telecom against the National Telecommunications Commission (NTC) relating to the former's application for a provisional authority (PA) to operate a mobile (cellular) service using specific frequency ranges. In its decision, the Court's Special Ninth Division tossed out the case after ruling the plaintiff had failed to prove its argument that it had legal rights to the 'concomitant frequencies' it was after. Further, the CA adjudged that NTC had not neglected its duties or obligations regarding the case. NOW Telecom was seeking to force the regulator to

comply with an order/resolution issued by the Anti-Red Tape Authority (ARTA). In short, ARTA ruled that the telco's application for a PA to operate mobile services in the 1970MHz-1980MHz paired with 2160MHz-2170MHz bands and the 3.6GHz-3.8GHz band was routinely approved by Republic Act 11032 (aka the Ease of Doing Business and Efficient Government Service Delivery Act of 2018). Whilst the ARTA ruling to accept NOW's application took place on 17 June 2022, the CA considered that – as ARTA's resolution was not yet final, with an ongoing appeal currently before the Office of the President, suggesting a grey area over NOW Telecom's entitlement to these frequencies – NOW's petition had ultimately failed to prove its case as there was a dispute over their legal ownership. Further, the CA ruled that the telco's suit for negligence against the regulator over allegations it failed to assign the frequencies was wrong given that under the National Telecommunications Act (RA 7925) the NTC holds 'discretion in implementing the law's policies and objectives' and it had previously disqualified NOW 'due to non-compliance with legal requirements' dating back to 2005 when it was disqualified from the assignment of 3G frequency bandwidth due to 'unpaid supervision and regulation fees (SRF) and spectrum user fees (SUF) amounting to PHP2.6 billion'.

(October 3, 2023) www.commsupdate.com

Poland

Thes Office of Electronic Communications (UKE) has confirmed that former CDMA operator Sferia has lost a long-running legal battle challenging a decision to revoke its licence to use spectrum in the 800MHz band. In 2018, ahead of an auction to award 800MHz frequencies to support 4G services, UKE announced that existing 800MHz licensee Sferia could retain its 2×5MHz allocation for a fee PLN1.73 billion (USD427 million). Sferia asked to pay the fee in instalments or shorten the licence duration to reduce the fee but the two parties could not reach an agreement and Sferia lost its rights to use the 800MHz spectrum. The operator appealed the decision, but UKE now says that Poland's Supreme Administrative Court has dismissed the legal challenge. (November 16, 2023) Polska Agencja Prasowa

The Office of Electronic Communications (UKE) in Poland says it is expecting the first applications next month from mobile network operators (MNOs) looking to deploy 5G base station equipment in the 3.5GHz band. The regulator sold four 3.5GHz concessions last month to incumbent operators Orange, Play, T-Mobile and Plus. UKE spokesperson Witold Tomaszewski said that from the first quarter of next year users can expect a 'significant improvement in the quality of telecommunications services, specifically an increase in data transmission speed, and greater availability of network coverage'. The regulator is currently processing the frequency reservations for each operator.

(November 14, 2023) www.commsupdate.com

Russia

The State Commission for Radio Frequencies (SCRF) has extended the country's existing frequency licenses for analogue TV broadcasting – which includes the 700MHz band earmarked for future mobile broadband usage – until 31 December 2024. The head of the Ministry of Digital Development, Communications & Mass Media, Maksut Shadayev, was cited as saying that a decision needs to be made 'before March 2024' on a strategy for releasing the 700MHz frequencies for developing 5G, a plan which is expected to require compensation for broadcasters losing the spectrum. The report also cites Alexey Malinin, president of Russia's National Association of Television & Radio Broadcasters, highlighting that his sector needs to approve a new frequency plan, which is 'a fairly complex and lengthy process' that will take 'at least a year', whilst the head of state-controlled broadcaster NTV, Alexey Zemsky, was quoted claiming that it will take 'four to five years' for the industry to switch to other frequencies after such a plan is agreed. Russia completed a phased switch-off of federal 'must-carry' analogue TV channels in October 2019, while regional analogue TV broadcasting has remained in operation under repeated license extensions from the SCRF. The country's main cellcos MTS, MegaFon, Tele2 and Beeline hold in-principle rights to the 700MHz band under their 4G licenses but in practice do not have access to the frequencies. (November 23, 2023) TelecomDaily

Serbia

The government is planning to auction spectrum for 5G services in 2024, Serbian IT Minister Mihailo Jovanovic announced at the opening of the TELFOR conference this week. The Minister added that, alongside preparations for the auction, the Ministry of Information and Telecommunications (MIT) is working on related measures to ensure a successful transition to 5G. These include the removal of barriers to the construction of base stations and the deployment of fiber infrastructure in rural areas, which the minister said were 'necessary for the full potential of 5G technology to be realized within a reasonable time [and] available to everyone'. Through

its broadband infrastructure construction project, the MIT is aiming to ensure that 99% of Serbian households have access to advanced broadband networks, with the minister claiming that even the 'most remote villages' will have access to download speeds of over 100Mbps. (November 23, 2023) www.commsupdate.com

Slovenia

The telecommunications regulator, AKOS, opened a public tender for allocating 5G radio frequencies for the provisioning of public telecommunications services to end users in the country, it said. The agency is inviting all interested parties in getting frequencies in the two blocks in the 2300 MHz band and one block in the 3600 MHz band to submit their bids by December 20, AKOS said in a statement on Friday. The objectives of the tender are to create conditions for the construction of local and regional cellular radio systems, advanced dedicated services for business users and ensure the digital inclusion of the local population, increasing the social and economic well-being of citizens of Slovenia, especially new jobs in the years 2025 to 2030, AKOS said. AKOS determined the minimum payment amounts for the efficient use of a limited natural resource for 10 MHz and per 1,000 inhabitants with the consent of the Slovenian government, the agency noted. It hopes to issue the final decisions on awarding the frequencies by the middle of 2024. (November 6, 2023) www.seenews.com

Telecoms regulator, the Agency for Communications Networks & Services (AKOS), has re-opened a public consultation into public funding for the rollout of communications networks. The consultation covers the subsidized deployment of fixed broadband, 5G and backhaul infrastructure to improve connectivity in underserved areas. Comments are being accepted until 5 November.

(October 11, 2023) www.commsupdate.com

Somalia

The National Communications Authority (NCA) has announced the signing of a framework cooperation agreement with the International Telecommunication Union (ITU) to promote the modernization and development of the country's telecoms services and infrastructure. The agreement was signed by the Minister of Communications and Technology of Somalia Jama Khalif and the ITU Regional Development Director Cosmas Zavazava. According to a press release, the framework cooperation agreement focuses on critical areas of ICT development in Somalia through the development of regulatory frameworks, capacity building, the strengthening digital infrastructure, connectivity and fostering trust in digital services.

(November 10, 2023) www.commsupdate.com

South Africa

The Independent Communications Authority of South Africa (ICASA) has confirmed that the country's mobile operators still owe a total of ZAR5.8 billion (USD302.6 million) in license fees from last year's multi-band spectrum auction. The figure was revealed to ITWeb, but the regulator declined to provide an operator-by-operator breakdown, citing confidentiality issues. Companies have been given until 31 October to pay any monies owed. The auction, which concluded in March 2022, generated a total of ZAR14.5 billion, with a total of six bidders winning spectrum, namely: Cell C, Liquid Intelligent Technologies South Africa, MTN, Rain Networks, Telkom and Vodacom. It has been widely reported that Cell C – which bid ZAR288 million for a 3.5GHz license – is one of the companies that has yet to pay its license fee. (October 11, 2023) www.commsupdate.com

South Korea

In line with previously announced plans, South Korea's Ministry of Science and ICT (MSIT) has confirmed it is now accepting applications for 5G-suitable spectrum in the 28GHz (26.5GHz-27.3GHz) band. However, it caveats this by noting that frequencies are only being offered to new operators as part of measures aimed at enhancing competition in the country's mobile sector. As such, the nation's incumbent cellcos – SK Telecom, KT Corp and LG Uplus – are barred from bidding for spectrum. In terms of pricing, the MSIT has set a KRW74.2 billion (USD57 million) minimum for a national concession, while should the authorities fail to sell a nationwide license, the spectrum will be offered on a regional basis, at prices ranging from KRW1.8 billion to KRW33.7 billion, dependent on the region. Applications for the spectrum have been requested by a deadline of 19 December 2023.

(November 20, 2023) www.commsupdate.com

Spain

The Ministry of Economic Affairs and Digital Transformation (Ministerio de Asuntos Economicos y Transformacion Digital) has announced the official launch of an EUR544 million (USD577 million) funding call for its UNICO-5G Redes Activas program, which seeks to boost 5G coverage in rural areas across the country. The Official State Gazette published the call for aid on 10 October 2023 to deploy the necessary equipment for 5G Standalone (SA) services in municipalities with fewer than 10,000 inhabitants. The funding for the program is financed with Next Generation EU European funds within the framework of the Recovery Plan and the Digital Spain 2026 agenda, as the Spanish government works to reduce the digital divide between urban and rural areas. The press release noted that the government's intention 'is for the country to have this disruptive technology in order to develop the capabilities that 5G will allow as an economic and social transformative element'. It went on to note: 'With this objective, programmes have been launched that cover all phases of development of these new mobile communication technologies in Spain. The aid programmes that cover the deployment of infrastructure (UNICO 5G Backhaul and UNICO 5G ACTIVAS), the development of pilot projects – through Red.es – and use cases, the integration of technology in industrial value chains (UNICO 5G Sectorial) and basic research and innovation in the following technological generations (UNICO R&D 5G advanced and 6G) … Spain has been one of the first countries in the European Union to have completed the allocation of the entire 5G spectrum, in addition to having dedicated 450MHz for self-provision and industrial use. Caps have also been increased to allow operators to better manage increases in traffic.' According to a report in each province, the successful company will be eligible for 100% of the funding if they are the sole bidder and up to 75% if not. It is understood that the government targets minimum data speeds of 100Mbps/5Mbps (down/uplink) and that the networks must come online by February 2026. The maximum cap on operators has also been set at 30 provinces, with the call remaining open for bids until 31 October 2023.

(October 12, 2023) Daily El Pais

Sweden

The Swedish Post and Telecom Agency (Post & Telestyrelsen, PTS) says two out of three of the government's 2025 targets for broadband coverage could be met, but the country will struggle to meet the third without further government intervention. Authorities are looking to have 1Gbps connectivity available to 98% of all households and businesses by end-2025 and PTS says this is within reach as it is forecasting a figure of 97.8%-98.3%. The second target is for a further 1.9% of households to have access to 100Mbps services, meaning 99.9% of premises would be covered by 100Mbps or higher, but PTS predicts that the figure will be between 98.1% and 98.6%. The third target of full 30Mbps coverage looks more likely to be achieved, with PTS forecasting a figure of 99.5%-100%. The coverage goals can be met via any combination of fixed and/or mobile technology.

(October 11, 2023) www.commsupdate.com

Switzerland

Switzerland's Federal Council has decided to postpone the assignment of mmWave spectrum for mobile communications until there is demand from the economy and the necessary environmental legal framework has been established. The latter condition refers to the rules regulating the emission of non-ionizing radiation, which has hindered the full utilization of 5G technology by Swiss cellcos. Current legislation sets strict limits on radiation emissions, preventing operators from installing dense groups of mobile sites. The government has been reluctant to amend these rules due to public concern over the alleged impacts of radio signals on health and the environment. To address these concerns, in 2019 the Federal Office for the Environment (FOEN, or Bundesamt fur Umwelt, BAFU) began work on a long-term study to monitor exposure to electromagnetic radiation and its impact on health.

(November 22, 2023) www.commsupdate.com

Federal Council has initiated a consultation on a draft amendment to the Ordinance on Telecommunications Services (OST) to make mobile networks more resilient to power supply disruptions. The government aims to ensure that mobile networks remain accessible during power outages to enable emergency calls, public telephone services and internet access. To that end, the council has proposed that mobile network operators install emergency power supplies in central locations and at base stations, sufficient to maintain service during outages of up to 72 hours or rolling blackouts over 14 consecutive days. The proposals would also require that each operator ensure that 99% of their customers in each commune have access to mobile services during power grid shutdowns. Operators would be given five years to ensure that emergency calls can be made during power outages, and a further three years to ensure that public calls and internet access are available; the proposals note that the rules should not

apply to internet video services (with the exception of videos in the public interest), which could overload the networks. An implementation plan should be submitted within six months of the OTS amendment coming into force, and operators would be required to submit annual progress reports. (November 2, 2023) www.commsupdate.com

Seychelles

Seychelles Office of the President announced the appointment of the board of the country's new telecoms regulator, the Seychelles Communications Regulatory Authority (SCRA). A press release states that the SCRA takes responsibility for the implementation and enforcement of the Communications Act 2023 and assumes the regulatory functions carried out thus far by the Department of Information Communications Technology (DICT) in the telecommunications and broadcasting sectors, whilst the DICT retains the 'policy portfolio responsibility' for these sectors. The seven SCRA board members have been appointed for a three-year period.

(November 9, 2023) www.commsupdate.com

Taiwan

The National Communications Commission (NCC) has revealed plans to set up a special task force which will monitor the market in the wake of two high profile planned mergers. With the authorities having given the necessary approvals for the proposed tie-up of Taiwan Mobile Company and Taiwan Star, the merger is now expected to complete next week, while Asia Pacific Telecom (APT) and Far EasTone are expected to conclude their amalgamation on 15 December. It is understood that in the wake of these deals completing the task force will monitor whether the surviving companies – Taiwan Mobile and FET – continue to offer 'reasonable' prices for their services and whether there are any disruptions to service stemming from customers needing to change SIM cards. NCC Vice Chairman Wong Po-tsung was cited as saying: 'The synergy produced through telecom mergers should help enhance the quality of telecom services available to customers … We hope that subscribers of the two new telecom companies would notice significant differences in terms of internet speed and telecom service coverage before the end of January, otherwise [the operators] will be at the receiving end of subscribers' fury.'

(November 23, 2023) The Taipei Times

Thailand

The National Broadcasting and Telecommunications Commission (NBTC) would include 3.5GHz spectrum in a long-term management strategy, with access expected in 2026. The newspaper stated the band is likely to form part of an NBTC roadmap also covering the 850MHz, 2.1GHz and 2.5GHz bands, which is expected to be finalized in early 2024. It stated Thailand has 400MHz of unallocated 3.5GHz spectrum, which is considered a core asset for 5G. More than 60 countries have assigned parts of the 3.5GHz range for their 5G network deployments. NBTC auctioned 5G spectrum in the 700MHz, 2.6GHz and 26GHz bands in 2020. In September, Ericsson head of Thailand Igor Maurell urged the government to allocate C-Band spectrum and hold an auction by 2025.

(November 8, 2023) www.mobileworldlive.com

Uganda

Uganda has signed an agreement with China to use Chinese tech firms to improve connectivity in the African country. A report from Ecofin says ICT Minister Chris Baryomunsi signed the deal at a China-Africa digital cooperation forum earlier this month. In March this year Uganda secured a UGX1.8 trillion (USD474 million) loan from the World Bank to support its digital transformation program. According to the latest government statistics, 41% of Uganda's population still has no access to the internet. (October 31, 2023) www.commsupdate.com

United Kingdom

British telecoms regulator Ofcom has begun consulting on plans to release more spectrum in the 1.4GHz band. According to the watchdog, with the 1492MHz-1517MHz frequency block having been identified for mobile use, it is now considering how to make it available. Ofcom notes that the adjacent block of spectrum in the 1.5GHz band is currently used to operate emergency communication satellite terminals on ships at and near ports, and aircraft at and above airports. As such, use of the 1492MHz-1517MHz block for mobile services is likely to cause interference to the receivers in these satellite terminals. As a result, Ofcom is seeking views on a technical analysis it has conducted to estimate the likely extent of such

interference, and on its initial views on the measures it could take to mitigate the interference risk. Additionally, it is also seeking stakeholders' views on the format of a potential auction, as well as the most appropriate lot sizes. With a deadline of 12 January 2024 set for input on the matter, Ofcom says the responses received will help inform the development of any future proposals for how the 1492MHz-1517MHz spectrum should be made available. In a separate development, Ofcom has said that it expects to see the introduction of 6G technology, a new version of Wi-Fi, and 'increased connectivity from the sky and space through the deployment of non-terrestrial networks' by the end of this decade. With an eye to the future, the watchdog has published a discussion paper putting forwards its case for making changes at each stage of the spectrum management pipeline, including the allocations and technical studies agreed at the ITU level. In this area, Ofcom has notably said that, given the potential diversity of next-generation networks, uncertainty in how and where they will be used, and the need to continue to support existing uses, it considers that future spectrum management must place greater emphasis on spectrum sharing and flexible access. (October 19, 2023) www.commsupdate.com

United States

The Federal Communications Commission (FCC) authorized the use of the 6GHz band for low power devices such as wearables, a move designed to spur development of new augmented and virtual reality applications. In a statement, the agency expects the ruling will bring forward a more flexible ecosystem of "cutting-edge applications" and allow wearables such as AR/VR glasses to operate alongside Wi-Fi-enabled devices. US technology companies including Meta Platforms, Google, Apple and Microsoft have lobbied the FCC to expand the use of 6GHz band to ease the development of metaverse-related gadgets, claiming access will support faster connectivity via tethering and in turn enhance performance. Notably, big tech has previously faced setbacks in introducing smart wearables, with Google abandoning plans to launch its smart glasses for example. In an emailed statement seen by Bloomberg, VP of North America policy at Meta Platforms Kevin Martin said FCC's decision will "allow companies like ours to use new wireless technologies to build the next wave of computing". The 6GHz band will offer a total of 850-megahertz of spectrum, providing "very high connection speeds, which are ideal for the types of high data rate cutting-edge applications that will both enrich consumer experiences and bolster the nation's economy", the FCC said. The authority also pointed to the potential in wearable sensors and IoT devices. (October 20, 2023) www.mobileworldlive.com

Uzbekistan

The Ministry of Digital Technologies (MDT) announced on 27 October 2023 the commercial launch of mobile number portability (MNP), confirming that five operators – Beeline, Ucell, Uzbektelecom, Mobiuz and the country's sole MVNO, Humans – now provide number porting. CDMA-based network operator Perfectum does not offer the service. Initially, Uzbek mobile users must visit a sales office of the destination network to port their number, with online-based MNP services expected to be launched at a later date. MNP requires an identification document which has already been registered with the user's number, and carries a standard user fee of UZS60,000 (USD4.90), although one operator, Humans, is advertising free porting to its MVNO network, apparently subsidizing the service. Same-day MNP processing is promised, with cellcos currently claiming on their websites waiting times of 'a few minutes' or 'up to ten minutes'. A number cannot be ported again until 30 days have elapsed. The MDT (formerly named the Ministry of Information Technologies & Communications) drafted regulations on MNP nearly five years ago in December 2018 before overseeing the implementation of the service in collaboration with the ministry's subordinate agency, the Republican Centre for Management of Telecommunication Networks. (October 30, 2023) www.commsupdate.com

Vietnam

The Vietnamese government has issued Resolution 192/NQ-CP approving an extension of the country's mobile money pilot scheme until the end of 2024. The trial, which permits the use of telecoms payments accounts for various transactions (including paying for small value goods and services, as well as for money transfers, cash top-ups and money remittances), was initially approved for a two-year period in March 2021. By May 2023 the number of mobile money service users reached more than 3.9 million. The State Bank of Vietnam, in collaboration with the Ministry of Information and Communications (MIC) and the Ministry of Public Security, will now conduct a review and propose issuing regulations governing mobile money services by May 2024.

(November 22, 2023) www.commsupdate.com

The Ministry of Information and Communications (MIC) has issued Decision No. 2041/QD-BTTTT approving the plan to hold an auction for licenses to use radio frequencies in the 2500MHz-2600MHz band for mobile services. According to the plan, spectrum licenses will be valid for up to 15 years and holders are obliged to launch commercial services within twelve months of receiving their concession and must deploy at least 3,000 5G base stations operating in the 2.6GHz band within two years. The starting price for spectrum licenses is VND3.98 trillion (USD161.7 million). According to the MIC, the auction is scheduled to be held by the end of the year.

(October 30, 2023) www.mobileworldlive.com

Zimbabwe

The Postal and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ) has approved a two-fold increase in the country's telecommunications companies' Zim dollar (ZWL) tariffs. US dollar tariffs, however, remain unchanged. The latest increase in headline and promotional tariffs comes after the local dollar tariffs were last reviewed in February 2023. Since then, key economic indicators of the industry's viability, including a stable currency and the price of electricity and fuel, have experienced significant fluctuations, resulting in the need for a review of the ZWL tariff for telecommunications companies, industry players have said. In the period (since the last tariff review) the Zimbabwe dollar has depreciated by more than 800 percent, from ZWL$687 to ZWL5,670 to the US dollar, on the official market. The three mobile telecommunications companies in Zimbabwe – Econet, NetOne, and Telecel all announced new tariffs effective this week, that will see the price of voice calls, data and SMS double from the pre-increase period. POTRAZ has said the tariff adjustment was necessary to allow mobile operators to maintain and improve their services. The regulator also noted that the new tariffs were still below the regional average. (October 25, 2023) www.chronicle.co.zw

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cmiiconnect@cmi.chinamobile.com