SAMENA TRENDS

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FOR SAMENA TELECOMMUNICATIONS COUNCIL'S MEMBERS

BUILDING DIGITAL ECONOMIES

OMDIA: **A New Era of Connectivity is Underway with IPv6+**

56

Featured

Steven Yi
Regional President,
Middle East & Africa
Huawei

THIS MONTH

ENHANCING CONNECTIVITY FOR THE REGION'S SUSTAINABLE DIGITAL GROWTH

Accelerating Fiber & IPv6+ Deployment
to Catalyze New Business and GDP Growth

October 20 | Dubai, UAE

About the Event

SAMENA Accelerator policy-level roundtable on Fiber & IPv6/IPv6+ deployment, organized as a part of the SAMENA Council – Huawei collaboration during the UBBF 2021 conference in Dubai, focuses on policy, regulatory, and business enablement issues relating to fiber deployment and industrial digitalization. The SAMENA Accelerator is in continuation of the SAMENA Accelerators held last year in collaboration with Huawei, with special focus placed this year to correlate fiber deployment with socio-economic growth, especially in the rural areas of the region, and to build the case for accelerated fiber deployment as an essential ICT pillar, which can dramatically add to and support sustainable national GDP growth by engaging rural communities. Key incentives and enabling environment need to be provided and key challenges need to mitigated at an unprecedented pace to achieve universal access. Furthermore, accelerating Industrial Digitalization in the era of Industry 4.0 and IoT, with the aim of accommodating complex and distributed network applications, and allowing for Telecom Operators' search for new streams of business growth, including through intelligent cloud network capabilities, demands speeding up the transition from IPv4 to IPv6 and also to IPv6+.

Strategic Partnership

stc   **zain**

UBBF-SAMENA Accelerator Focus:

- Global Connectivity & Digital Development Imperatives
- Transformative Power of ICT Infrastructure and Digital Services for Accelerating Socio-economic Growth
- Policy Visions of Inclusive Gigabit Connectivity
- National Broadband Networks (NBN) and Innovative Technologies to Support Fast Fiber Deployment
- The Role of IPv6 & IPV6 Enhanced Innovation in Regional Digital Economic Transformation
- Country Perspectives on IPv6 Transition
- The Role of Industry Value-chains and the Pace of IPv6 Adoption to Foster Industrial Digitalization

Who Will Speak & Attend:

- Heads of Regulatory Authorities
- CEOs of Telecom Operator Groups
- Industry Leaders
- Decision-makers and Implementation Leads
- on Fiber & IPv6 from around the World

Participation is virtual + physical. Please request your participation by reaching us at:

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Enhancing Connectivity for the Region's Sustainable Digital Growth

When it comes to building successful digital economies, sustainability and inclusiveness are the key principles. It is truly through collaboration and by fostering inclusion and participation of everyone that we can ensure that we will take into account different needs and issues into consideration…in order to take actionable steps to make real progress. As our societies and the global economy digitalize, there are ever more possibilities to advance standards of living through human-centric, data-driven, and evidence-based policies, increased economic competitiveness, higher-quality jobs, enhanced provision of public services throughout the SA-ME-NA region's urban and rural communities.

We have less than 10 years to make progress on multiple fronts, which includes provisioning meaningful access to connectivity and achieving beneficial utilization of the 5th generation mobile broadband and fixed broadband technologies that our industry has created. To close the gap between connectivity and digital economy, we need to tackle the financial resource gaps for building digital infrastructure, which can empower the region's digital economy. Such financial resources are required to build both 5G networks as well as fiber and IPv6 based fixed networks.

We are at a stage in our technological evolution where connectivity must catalyze a multi-layer wave of digitalization across all industries, adjacent sectors, and digital economies, at large. And this crucially requires the participation and contributions of all digital space players, recognizing that the Internet is the lifeblood of digital economy and we need to improve the pace of growth and inclusiveness of our regional digital economy; enhance how education and healthcare delivery is carried out; and how innovation happens, at large.

Understanding that the inherent nature of the digital economy demands participation and concerted efforts and unified region-wide and worldwide responses are needed to tackle the connectivity gap, it is crucial that targeted policies and better, more flexible regulatory and competition frameworks are put in place.

Expectations put forth by international ICT community, with our region's policymakers and regulators at the forefront, have conspicuously defined priorities attached to them, such as universal access and the development of meaningful and affordable connectivity, which is foundational for ensuring digital inclusion and expediting digital transformation efforts, to help build a sustainable digital economy in the region. The necessity of digital resilience, resilient networks and enhanced robust connectivity, which are crucial for making the most beneficial use of the Internet, lie at the heart of how fast we can materialize a sustainable digital economy and move toward creating a knowledge society.

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

4 Key Recommendations by the Working Group on 21st Century Financing, Funding and Investment Models

Broadband Commission's Working Group on *21st Century Financing, Funding and Investment Models*, operating within the Broadband Commission for Sustainable Development – co-chaired by SAMENA Telecommunications Council's CEO, Bocar Ba – released the "Executive Summary" of the forthcoming report on *21st Century Financing Models for Bridging Broadband Connectivity Gaps* on Sunday, 19 September 2021 during the Broadband Commission's Annual Fall Meeting. The upcoming report is a key first step in accelerating more comprehensive and inclusive frameworks for ICT broadband infrastructure development and for providing meaningful connectivity.

The larger strategic recommendations by Working Group's Executive Summary report are 1) Broadening the Base of Contributors, 2) Earmarking Proceeds from ICT Sector Participants, 3) Reforming Universal Service and Access Funds (USAFs), and 4) Creating an International Fund. These recommendations are intended to drive progress in connectivity through a more effective set of

investment, funding, and financing mechanisms and by engaging a broader range of stakeholders.

These strategic recommendations act as a foundation for driving connectivity not only toward the 2025 Targets, but toward the more optimistic goal of connecting all populations into a larger fabric where individuals and communities are not excluded from the opportunity to live, work and engage with their global peers. They function here to shine a light on a growing narrative around connectivity – one that emphasizes the shared benefits we all enjoy, our collective responsibility, the commitment required, the reform we must face, and the opportunity to enable global connectivity for all.

New contribution models involve both traditional and contemporary contributors, which has the doubly beneficial effect of allowing traditional models to be modified and upgraded as well as create entirely new regimes. Each of the new models listed must be attuned to local conditions. The Working Group recommends thorough collaboration across public, private, national, and international organizations. The most promising combinations involve systemic leadership, management, and problem-solving, thus the link between the international fund described above and national-level entities that have a better understanding of the local landscapes and market conditions.

The Executive Summary also serves as a call for leadership and action. In the 21st century, technology offers the opportunity to lift people out of poverty, incorporate unconnected groups into the
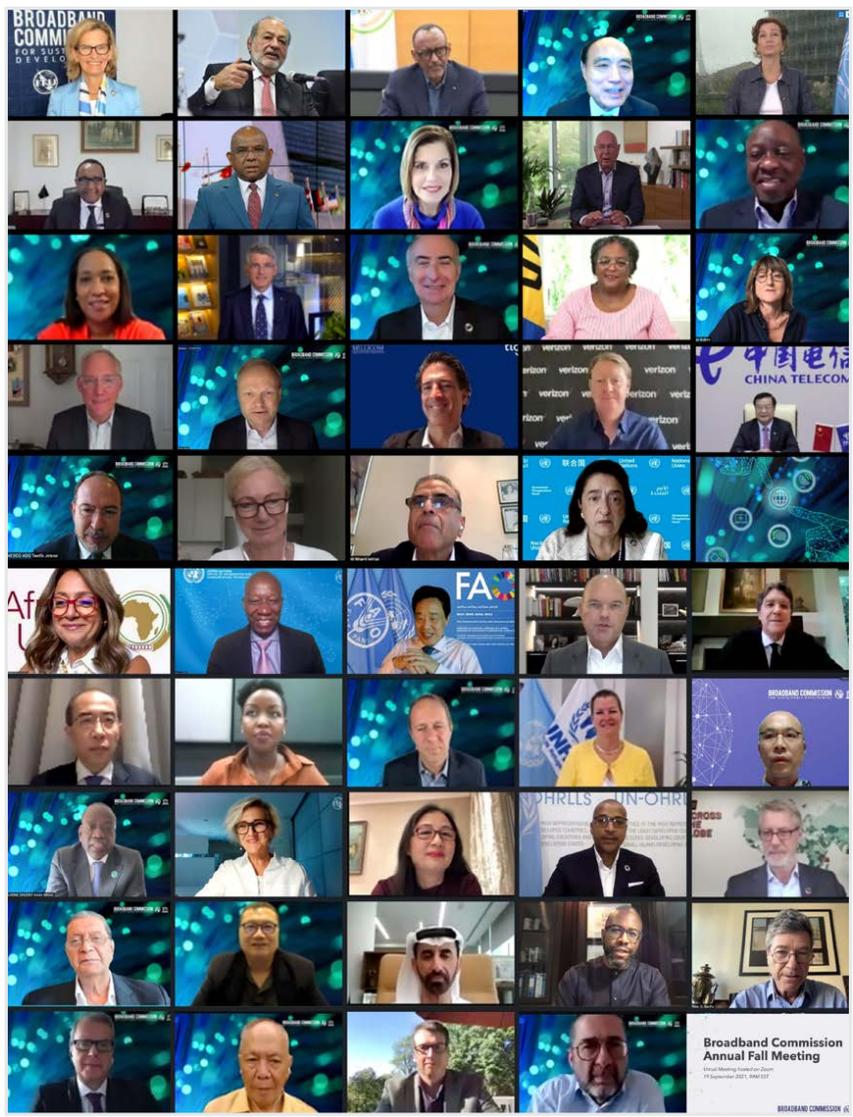
underlying element that facilitates these new forms of value creation. Expanding connectivity requires mutual support, solidarity with global societies, and a commitment from many nations toward increasing collective wellbeing. Each moment that passes without progress is an opportunity lost. Stakeholders must adopt these recommendations as soon as possible to start substantially closing these gaps that hinder access, affordability and equality. If they do, the 2025 Targets will not be out of reach. In this context, the Working Group on 21st Century Financing Models for Sustainable Broadband Development presents has develop its findings, to provide a more detailed look into innovative financing models that could help bridge the coverage, adoption, and usage connectivity gaps.

broader global society and provide people with services and avenues of prosperity. The internet has even been recognized by the United Nations as an enabler of human 19 Chairman's Executive Summary rights.13 Broadband connectivity is the

Innovation Contribution Model Proposed in the Executive Summary
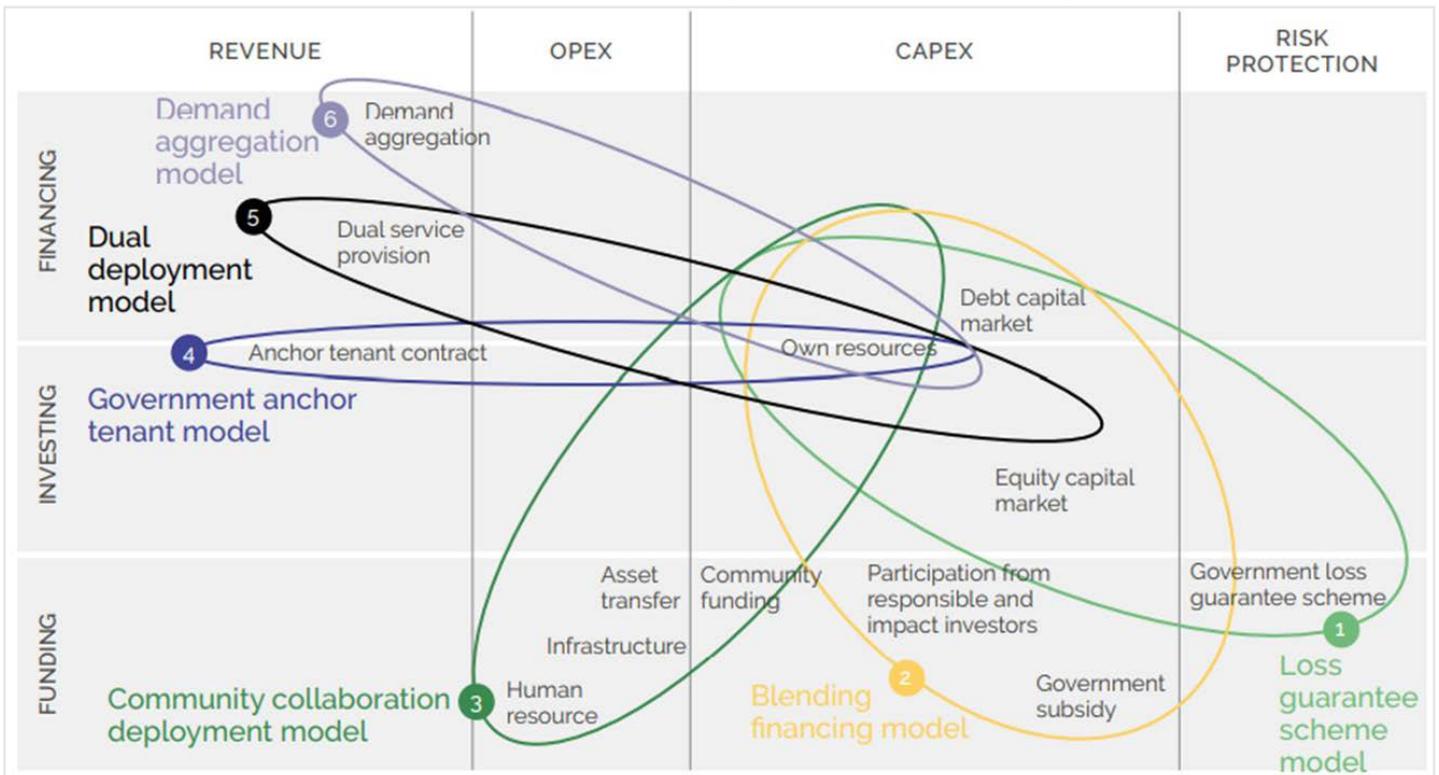
Source: Executive Summary from the the Working Group on 21st Century Financing Models for Sustainable Broadband Development

SAMENA Council Contributes to Recommendations for 21st Century ICT Infrastructure Funding

Co-chaired by SAMENA Telecom-munications Council's CEO, Bocar BA, Broadband Commission's Working group on 21st Century Financing, Funding and Investment Models has concluded its work on findings and recommendations for bridging broadband connectivity gaps. The Working Group's report is a key first step in accelerating more comprehensive and inclusive frameworks for ICT broadband infrastructure development and for providing meaningful connectivity.

The recommendations present prac-tical actions that policymakers, reg-ulators, international organizations, digital economy participants and the private sector can take to innovative-ly close the digital divide, and set out a clear vision for a more collabora-tive approach to bridging connectivity gaps. The recommendations also align closely with the most recent Agenda for Action issued by the Commission to achieve "faster and better recovery" in the aftermath of the recent pandemic.

Bocar BA highlighted the collabora-tion-intensive achievement by the In-dustry's leading players – including national regulatory authorities, telecommunications operators, finan-cial institutions, trade associations, academics and notfor-profit develop-ment organizations and industry bodies. By delivering a set of implementable recommendations on financing, funding, and investment, which aim to address shortfalls in existing ways of financing infrastructure and reflect the changed market realities of the 21st Century, the Working Group's multi-stakeholder engagement and output re-affirm the Commission's core

mandate of bringing meaningful and affordable connectivity to the world's entire population.

BA has also commended all members of the Working Group and supporting Commissioners for their sustained engagement and expert input that gave rise to a successful outcome of the work of two years and stressed upon the significance of the four strategic recommendations Bocar stated that "Now, we must gear ourselves up for the task at hand, to ensure that we will advance in our joint goal of connecting the remaining unand under-connected 3.7 billion. We will start our advocacy now on these 4 key strategic recommendations. I can envision our Working Group's recommendations leading the world to continued innovation and new broadband development initiatives."

The Working Group for 21st Century Financing and Funding Models for Sustainable Broadband Development was established as a cross-sector group of thought-leaders and operated under the auspices of the Broadband Commission for Sustainable Development. Its members included national regulatory authorities, telecommunications operators, financial institutions, trade associations, academics and not-for-profit development organizations and its central objective was to explore and identify new and innovative funding, financing and investment strategies to address the challenge of extending broadband connectivity and services to those who, to this day, remain unconnected, particularly in Africa, Asia, South America and the Pacific Islands.

Key Recommendations

- **Broadening the Base of Contributors** to ensure that all that participate in and benefit from the digital economy and its broadband infrastructure can contribute to it
- **Earmarking Proceeds from ICT Sector Participants** to be spent on initiatives supporting the BBCom's connectivity and adoption goals, including proceeds from existing mandatory contributions, fees, regulatory levies, or digital taxes.
- **Reforming Universal Service and Access Funds (USAFs)**, where they have been found to be ineffective, with a focus on new, incremental infrastructure deployment and demand-supporting initiatives aimed at securing affordable connectivity to many, as well as recognizing various types of contributions from the broader base of stakeholders as identified in recommendation 1
- **Creating an International Fund** to support the sustainable development of broadband, which could be hosted by an existing international or multilateral development bank in coordination with the relevant UN organizations. This fund would be open to investors and non-governmental organisations that could make voluntary contributions for the provision of low capital-cost, long-amortisation-period financing.

The Executive Summary of the report developed by Working Group on 21st Financing, Funding and Investment Models can be downloaded from the Broadband Commission's website.

SAMENA COUNCIL ACTIVITY

Huawei's Ken Hu Calls on ICT Industry to Work Together on Next Stage of 5G Development

Rotating Chairman of Huawei, Ken Hu, delivered a keynote during Huawei's 12th annual Global Mobile Broadband Forum (MBBF) in Dubai, drawing attention to important imperatives in 5G development.

He spoke on the current state of 5G development and new opportunities moving forward. "In just five years of commercial deployment, 5G has provided a considerable upgrade in mobile experience for consumers, and it's already starting to empower different industries around the globe. Progress was much faster than we expected, especially in terms of the

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subscriber base, network coverage, and the sheer number of 5G terminals on the market."

Hu outlined three areas of opportunity that will drive the next stage of 5G's growth, including XR services, the B2B market, and low-carbon development.

The current state of global 5G development
There are currently 176 commercial 5G networks around the globe, serving more than 500 million subscribers. In the consumer space, average 5G download speeds are roughly 10 times greater than 4G, which has fueled broader adoption of applications like VR and 360º broadcasting. In the enterprise space, there are already 10,000 projects exploring B2B applications of 5G (5GtoB) around the world. 5G applications in industries like manufacturing, mining, and ports have already passed trial and are being

There are currently 176 commercial 5G networks around the globe, serving more than 500 million subscribers. In the consumer space, average 5G download speeds are roughly 10 times greater than 4G, which has fueled broader adoption of applications like VR and 360º broadcasting.

replicated at scale. While progress has been steady, Hu noted that there are still some areas for improvement. "Right now more than half of these 10,000 5GtoB projects are in China. We have a huge

number of use cases already, but we need to build more sustainable business cases."

He went on to speak of broader changes that will have a long-term impact on the ICT industry, including accelerated digital transformation caused by the pandemic, how cloud and AI have become must-haves for all organizations, and how the world is taking climate change more seriously. "These trends provide many opportunities for our industry," he said. "But they also create some challenges. There are a few things we can do to get ready."

First, the industry needs to get networks, devices, and content ready for explosive growth in Extended Reality (XR). To support a smooth cloud-based XR experience, networks need to provide download speeds faster than 4.6 Gbit/s with latency no greater than 10 milliseconds. "Last year," noted Hu, "we released our goals for 5.5G. And we believe they will help address this challenge."

On the device side, lowering barriers to headset adoption is critical to reaching a tipping point in virtual reality, one of the key technologies in the Extended Reality repertoire of AR, VR, and MR. "To reach [this tipping point], we have to make improvements to both headsets and content. For headsets, people want devices that are smaller, lighter, and more affordable." To enrich the content ecosystem, Hu called on the industry to provide cloud platforms and tools that simplify content development, which is notoriously difficult and expensive.

Second, telecom operators need to enhance their networks and develop new capabilities to get ready for 5GtoB. A strong network is key to 5G applications for industrial use, so operators need to keep making improvements to network capabilities such as uplink, positioning, and sensing. As industrial scenarios are much more complex than consumer scenarios, O&M can be a real challenge. To help, Huawei is developing autonomous networks that bring intelligence to all aspects of 5G networks, from planning and construction to maintenance and optimization.

Digital transformation also requires different roles. In addition to providing connectivity, operators can also serve as cloud service providers, systems integrators, and more, and develop the requisite capabilities. To drive broader adoption of 5G in industries, developing industry-specific telecoms standards is also important. In China, operators, together with their industry partners, have begun working on standards for applying 5G in industries like coal mining, steel, and electric power, and this has helped to fuel greater adoption within these sectors. "Beyond technology," concluded Hu, "these are some of the intangible strengths that won't provide immediate profit, but will be key to long-term competitiveness in the 5GtoB market."

Third, the industry needs to get ready to go green. According to the World Economic Forum, by 2030, digital technology can help reduce global carbon emissions by at least 15%. "On one hand," said Hu, "we have a great opportunity to help all industries cut emissions and improve power efficiency with digital technology. On the other hand, we have to recognize that our industry has a growing carbon footprint, and we have to take steps to improve that. Right now Huawei is using new materials and algorithms to lower the power consumption of our products, and we're remodeling sites, and optimizing power management in our data centers for greater efficiency."

"We have seen so many changes in the past two years – with the pandemic, technology, business and the economy," Hu concluded. "Moving forward, as the world begins to recover, we need to recognize the opportunities in front of us and get ready for them. Get our technology ready, get our businesses ready, and get our capabilities ready."

The Global Mobile Broadband Forum 2021 is hosted by Huawei, together with its industry partners GSMA and the SAMENA Telecommunications Council. The forum gathers mobile network operators, vertical industry leaders, and ecosystem partners from around the world to discuss how to maximize the potential of 5G and push the mobile industry forward.
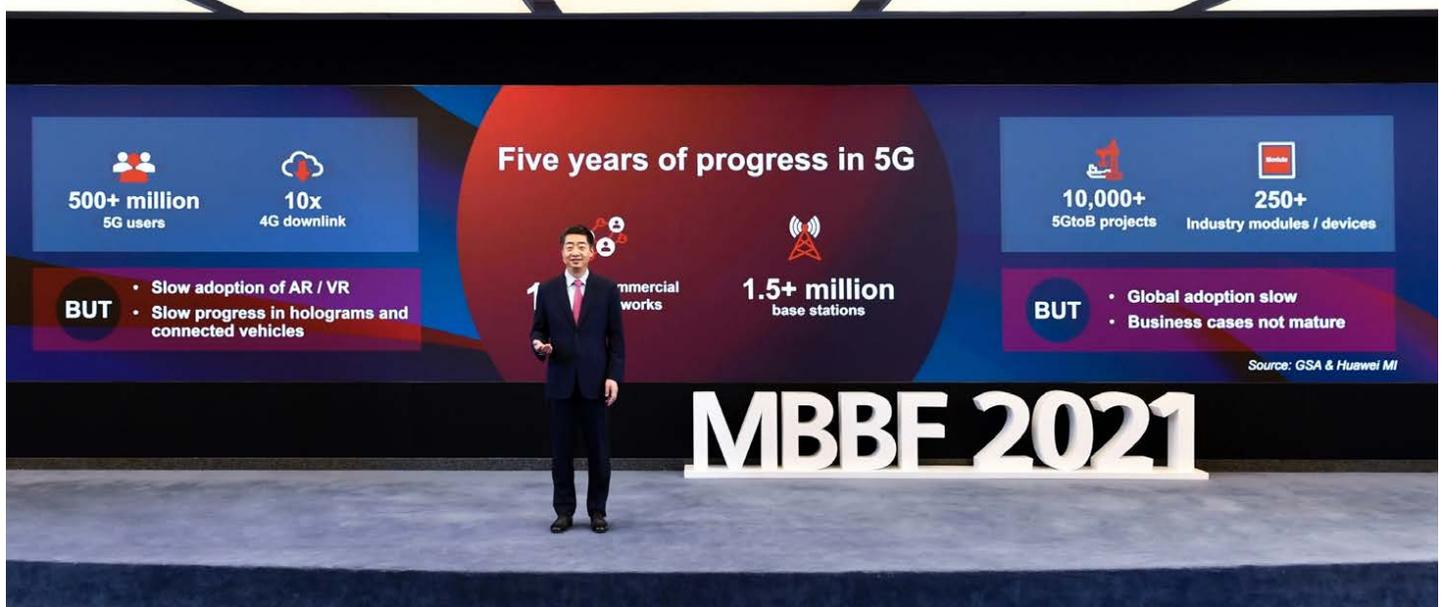
SAMENA Council Identifies Two-Pronged Challenge of Expediting 5G Development and Connecting the Still Un-connected; Shares Recommendations to Tackle Broadband Financing and Funding Gaps at the 12th Global MBBF in Dubai

Supporting Huawei's 12th Global Mobile Broadband Forum (MBBF 2021) as the region's premier industry body and presenting the case for Telecom Operators to be better incentivized on future infrastructure investments, SAMENA Telecommunications Council, represented by Bocar BA, CEO & Board Member, highlighted that 5G will be a widespread reality only if financial resources are dedicated to its development along with necessary policy and regulatory enablement steps. *"This is at a time when we also require unlocking access to capital for ensuring universal broadband access for all, including the still un-connected populations in the region. So, the challenge is double: developing 5G and connecting the still-unconnected"*, BA stated.

To tackle the financial resource gaps for building advanced digital infrastructure, including 5G networks, which can empower the Middle East, or any region for that matter, massive public-private efforts are required. However, to make that happen, transformation is required

on at least two fronts: one, on reality-based policy-making and evidence-based regulatory approaches, and, two, on unity among industry stakeholders to tackle the challenge of building new broadband infrastructure.

In this regard, BA highlighted the Broadband Commission's contributions toward developing broadband, including through a set of four key strategic recommendations, which have recently come out from the work of the Commission's Working Group on 21st Century Financing & Funding Model. The recommendations were released during the Commission's Annual Fall Meeting held last month, and capture the essence of how ICT stakeholders need to move forward in closing connectivity gaps and developing future broadband infrastructure. The four strategic recommendations set forward the principles of (1) broadening the base of contributors, (2) earmarking proceeds from ICT sector participants, (3) reforming universal service and access funds and, (4) the creation of an international fund among

necessary requirements for achieving the UN 2030 SDGs.

During MBBF 2021, SAMENA Council voiced the need to expand the scale of beneficial utilization of 5G cross all sectors of all regional economies, while being both inclusive and thinking "green 5G". At the policy-level, this merits harmonizing policy and regulatory efforts in collaboration with Telecom Operators and Technology Providers, like Huawei. In order to address impediments to 5G adoption, to bring benefits of 5G, and thus to empower a better Middle East, SAMENA Council also elaborated on the necessity of being perfectly aligned and orienting stakeholder focus to sustainability and to executing better forms of collaboration.

MBBF 2021 is being held at JAFZA One Convention Centre in Dubai, and offers an opportunity for the mobile and adjacent vertical ecosystems to reconnect, rebuild, and reimagine a fully connected, intelligent world. It is a hybrid event that many participants are joining in person.

Huawei Presses for Environmental Action
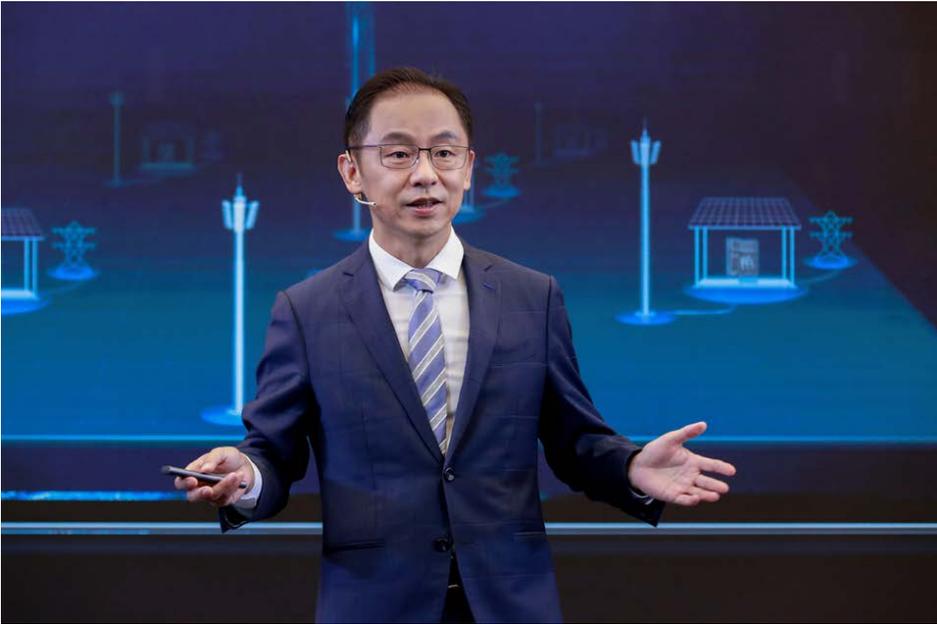
Ryan Ding, Huawei's Executive Director and President of the Carrier Business Group, gave a keynote speech entitled "Green 5G Networks for a Low-Carbon Future". In his speech, Ding said that 5G has become a new engine for the growth of the mobile industry, and that to adapt to the rapid growth of data traffic, the whole industry will need to keep pursuing innovations in power supply, distribution, use, and management, and build greener 5G networks with higher performance and lower energy consumption.

According to Ding, in countries where 5G is developing faster, operators who have invested heavily in 5G have seen remarkable returns, but he stressed that operators will realize business value only when the 5G user penetration rate is high enough. When the 5G user penetration rate reaches a threshold of 20%, Ding said, rapid development of 5G will follow. In countries such as China, South Korea, and Kuwait, operators were quick to provide continuous nationwide coverage, giving users a consistent experience. They also offer flexible service packages, which delivers a win-win result for both users and

themselves. In addition, these operators are providing a gigabit experience—a tangible improvement over 4G—to accelerate user migration and network evolution. In these countries, the 5G user penetration rate has exceeded the 20% threshold, triggering a positive cycle of user growth, business returns, and network construction.

High-quality 5G networks will drive the rapid growth of mobile data traffic. It is estimated that the average data traffic per user per month will reach 600 GB by 2030. If the energy efficiency of existing networks remains unchanged, the energy consumption of wireless networks will increase by more than tenfold. Ding said that to cut the ICT industry's greenhouse gas emissions by 45%, operators will need to pursue ongoing innovations in power supply, distribution, use, and management to build greener 5G networks with higher performance and lower energy consumption.

Huawei itself offers a comprehensive range of products and solutions that address power consumption issues of wireless networks. The company has developed the

iSolar power supply solution that covers all scenarios, including poles, cabinets, sites, and equipment rooms. This solution can reduce the use of electricity from grids and fossil fuels by diesel generators and improve the energy mix that powers base stations. On the power distribution front, Huawei provides an industry-leading high-density power solution. For each site, just one cabinet—or even just one blade—is needed, which supports the long-term evolution of mobile networks. To use power more efficiently, Huawei has redesigned site form factors and now offers highly integrated simplified site solutions for use in all scenarios. These solutions maximize the share of energy used by communications equipment and ensure electricity is fully used. Wireless networks need to work in synergy with power supply, distribution, and use. This means operators need to use information flows to manage energy flows, in order to maximize energy use and save energy at the network level.

Toward the end of his speech, Ding said Huawei has already deployed low-carbon site solutions in more than 100 countries, including Saudi Arabia, Greece, Pakistan, and Switzerland, helping operators reduce carbon dioxide emissions by 40 million tons. As a player in the communications industry, Huawei will continue to put green development at the center of everything it does and develop innovative solutions to build greener 5G networks with operators worldwide.

The Global Mobile Broadband Forum 2021 is hosted by Huawei, together with its industry partners GSMA and the SAMENA Telecommunications Council. The forum gathers mobile network operators, vertical industry leaders, and ecosystem partners from around the world to discuss how to maximize the potential of 5G and push the mobile industry forward.

Lighting up the Future

HUAWEI

Huawei Appoints Steven Yi as Regional President for Middle East

Huawei, a global provider of information and communications technology (ICT) infrastructure and smart devices, has announced the appointment of Steven Yi as president for the Middle East. In his role, Yi will work with both regional and global ICT ecosystem partners towards Huawei's vision to bring digital to every person, home and organisation for a fully connected, intelligent world.

The appointment comes as Huawei continues to strengthen its leadership role in the ICT industry, supporting nations in the region with their post-COVID recovery through the expansion of open, secure and innovative digital infrastructure.

"The Middle East and Africa region is an incredibly dynamic geography. Huawei has been proud to serve governments, telecom operators, enterprises and consumers here over recent decades," noted Yi. "Today, national digitisation plans around the Fourth Industrial Revolution are truly breathtaking in their scope. With this in mind, Huawei will continue to invest in its partners and its people to serve the businesses of tomorrow, and assist nations in achieving their development visions."

Yi will be responsible for directing the company's operations across all countries and all Huawei business groups in the region. In addition, he will guide the company's strategic direction, cultivate high-level stakeholder relationships and play an active role in supporting the adoption of Huawei solutions.

"It all starts with having a customer-centric mindset," he said. "We must always deliver results while creating the best possible user experience for our customers. Huawei has been doing that successfully for more than 20 years in the region and is committed to creating further value in a society empowered by connectivity and digital economy."

As a longstanding Huawei executive, Yi first joined the company in 1998. He is currently a member of the ICT Infrastructure Managing Board, member of the Supervisory Board, and president of Huawei in MEA. He has previously served as deputy CFO of Huawei in the region, president of Sales and Delivery Finance Management Department, president of Huawei's America area operations and general manager of the Huawei Pakistan Representative Office.

Mr. Steven Yi
- **President of the Middle East & Africa Region**
- **Member of the ICT Infrastructure Managing Board Huawei Technologies Co., Ltd.**
- **Member of the Supervisory Board Huawei Technologies Co., Ltd.**

Mr. Steven Yi oversees the wider Middle East and Africa region for Huawei. He also sits on the Huawei Supervisory Board, and is a member of the ICT Infrastructure Managing Board, working towards Huawei's vision to bring digital to every person, home, and organization for a fully connected, intelligent world.

As the regional President, Mr. Yi is responsible for directing the company's operations across all countries and all Huawei business groups in the area. He oversees the company's strategic direction, cultivates high-level stakeholder relationships, and plays an active role in supporting the adoption of Huawei solutions. He also works with organizational leaders in the region to innovate around the Huawei portfolio, covering many 4IR technologies such as of 5G, artificial intelligence (AI), big data, cloud computing, the Internet of Things (IoT), and more.

Mr. Yi first joined Huawei in 1998 and previously served as both Vice President and then President of the Middle East region. He has also served as Deputy CFO of Huawei in the region, President of the Sales & Delivery Finance Management Department, President of Huawei's America area operations, and General Manager of the Huawei Pakistan Representative Office.

He is a graduate of Wuhan University in China.

The Success of the Digital Economy Relies on Connectivity

The digital economy improves economic and societal outcomes within countries and serves as a source for innovation and productivity growth. A precise measurement of the digital economy is difficult, but the United Nations cites a range from 4.5% to 15.5% of global GDP, or $4 trillion to $13.6 trillion in 2019 (based on 2019 global GDP of $87.8 trillion). Connectivity is essential to the success of the digital economy, fiber network is the foundation of full-service infrastructure, and IPv6 and IPv6 enhanced innovation is the cornerstone for smart connection.

> *Pioneering telecom operators and governments in the region have proven that fiber & IPv6 development can bring tremendous profits and significant economic value.*

In Middle East region, most of the operators has already started the fiber and IPv6 journey.

UAE is ranked number one for the highest Fiber to the Home (FTTH) penetration among all its global counterparts for a third year in a row in 2019, according to the leading industry body FTTH Council. Companies operating telecommunications services in the country have allocated a monumental budget for investment in infrastructure amounting to AED 36 billion, which made the country own an infrastructure among the best in the world in terms of providing "fiber" services and coverage in general.

In Saudi Arabia, STC is one of the first Internet service providers (ISPs) to roll out a full production Internet Protocol version 6 (IPv6) connectivity to its client infrastructure and cloud services platform since 2019. Zain started study on IPv6 back in 2015, and now all Zain subscribers are enabled to use Ipv6, and more than 50% of subscribers are ipv6 active.

Additionally, many governments introduced policies to accelerate investment in network facilities. These policies are not just about responding to the present pandemic risks, but more about investing in the future.

Steven Yi
Regional President, Middle East & Africa
Huawei

HUAWEI

UAE is ranked number one for the highest Fiber to the Home (FTTH) penetration among all its global counterparts for a third year in a row in 2019, according to the leading industry body FTTH Council.

Pakistan cabinet approved the very first Right of Way (ROW) Policy for the telecom sector in January 2021, the Ministry for Information Technology and Telecommunications (MoITT) published the policy which clears a large number of hurdles faced by telcos and internet service providers in the installation and maintenance of their telecommunication equipment and expansion of systems across the country.

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Bahrain Telecommunications Regulatory Authority (TRA) published the Fifth National Telecommunications plan (NTP5) on its' official website, aiming to cover 95% household, 100% business premises, 100% of public telecommunication stations by fiber.

Saudi Arabia's Communications and Information Technology Commission (CITC) formed the IPv6 Task Force in 2008 with the mission to gather stakeholders from public and private sectors and raise awareness and encourage the deployment of IPv6 nationwide. In addition to coordinating workshops and activities in the country, the group also works with the IPv6 Forum and other national IPv6 task forces. Saudi Arabia currently ranks 10th globally in IPv6 adoption, at 46.6%, according to Google.

In 2016, the UAE regulator launched its IPv6 initiative with Réseaux IP Européens Network Coordination Centre (RIPE NCC), the regional internet registry for Europe, West Asia, and the former USSR. Expanding the partnership, in 2017, the UAE regulator signed an MoU with RIPE NCC to enhance cooperation and exchange of expertise between the different sectors throughout the Middle East. Less than two years after launching IPv6 in the country, the UAE became the number one Middle Eastern country in IPv6 adoption. Today, The UAE ranks 15th globally, at 41.19%, according to Google.

Overall, the optical fiber and IPv6 connectivity are serving as a conduit for the growth of the region's digital economies. In the case of fiber & IPv6 development, the question is no longer about "why" but "how". Pioneering telecom operators and governments in the region have proven that fiber & IPv6 development can bring tremendous profits and significant economic value. More fiber to the wireless base stations to unleash full potential of 5G, more fiber to the home to enable true giga experience for remote working and education; enabling IPv6 to support digital transformation, such as Internet of Vehicles, industrial Internet, holographic communications, Internet of Things (IoT), and Internet finance.

Overall, the optical fiber and IPv6 connectivity are serving as a conduit for the growth of the region's digital economies. In the case of fiber & IPv6 development, the question is no longer about "why" but "how".

To make the best of today for a better future, a full fiber-based infrastructure and IPv6-based intelligent network will undoubtedly remain a priority in most of the region over the next decade.

Etisalat Speaks to SAMENA Council

Etisalat's Focus at GITEX Technology Week

> *On the operations front, despite the challenges faced from the pandemic last year our robust plans on business continuity and crisis management helped in maintaining growth and business across operations.*

Q. As Etisalat's leader, can you take us through Etisalat's successful journey this year delivering a consistent strong performance in 2021 after challenging dynamics of the world right now?

A. Etisalat Group's strong results are an outcome of our sincere efforts to drive growth and generate efficiencies despite unprecedented challenges in certain markets, thanks to the flexibility and agility in our efficient business model to deliver growth and a robust performance.

This was positively reflected in the financial results of the group with a market value of USD 58 billion and revenues touching AED 26.4 billion with a Year on Year (YoY) increase of 3.2 percent and consolidated net profit after federal royalty amounting to AED 4.7 billion.

These results are a reflection of our continuous endeavor to work in line with our strategic vision to 'Drive the digital future to empower societies' while remaining focused on our core business and exploring new growth opportunities ensuring that we are well geared for the future with our digital capabilities and solutions.

On the operations front, despite the challenges faced from the pandemic last year our robust plans on business continuity and crisis management helped in maintaining growth and business across operations. This was mainly because of our focus on three main factors that included advance crisis planning bringing in efficiency and flexibility, our advanced and reliable infrastructure and network in all markets, and our experienced teams who managed business operations when the world came to a standstill last year.

Hatem Dowidar
Group CEO
Etisalat International

Many telcos faced major challenges from global markets but UAE is at the forefront of digital technology and connectivity and has the highest fibre penetration globally enabling consumers and businesses to study and work remotely during this period.

Despite these unique market conditions, Etisalat managed to grow positively due to the efficient management of our operational expenses not affecting the quality of services while the increase in revenues was slightly affected with investments focused on connecting all homes with fiber and launching enhanced offers for customers to upgrade their home and mobile plans at no extra charge to support them to work and study from home. Certain sectors were also adversely affected like tourism and aviation which invariably affected the company revenues as well, however we focused our energies on new digital services such as cloud computing and cybersecurity that became major enablers for business.

We are confident that Etisalat Group will maintain its leadership position in the telecom industry with an unwavering commitment to key strategic priorities to enable a future driven by digital innovation across our operations. At Etisalat, we are determined to continue the incredible transformation we have been experiencing in 2021 across our markets and believe that our major sustainable drivers of growth at Etisalat remain to be

our international portfolio and efforts in the digital space. With regard to the latter, there is strong potential in the cloud, IoT and cyber security space, which will fuel future growth and rebalance telecom revenues and at the same time provide returns to shareholders and create added value for customers. With people working and studying from home, there was an exponential increase of 40 percent in the use of home internet during the pandemic.

Q. What is Etisalat's theme this year and can you explain the rationale behind it at GITEX Global?
A. Etisalat's theme this year 'Shaping the new Digital Era' highlights how in the new digital economy we can leverage technology to be agile in the face of disruption and create new business models– post-COVID, purpose driven, sustainable and inclusive. It is about empowering the next era of digital technology where 5G communication, AI, IoT and machine learning enable a new way of living.

GITEX gives us an opportunity every year to meet with peers and technology leaders from across the world to share our experiences giving us an opportunity to showcase capabilities of telecom and technology to transform every industry from transport, retail, healthcare, education to fashion, automotive, utilities and entertainment.

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Q. What are the major driving factors that have added value to Etisalat's leadership position and to the overall company performance?
A. The successes during the first half of the year was not limited to financial performance but also to the global achievements made in our infrastructure and networks.

Etisalat's network was recognised the world's fastest network and fastest fixed network in the GCC. These efforts have greatly impacted the country's overall performance resulting to the UAE being ranked the fastest country in the world in January-June 2021 for average mobile download speed and was the only country from the MEA region to be ranked in the top 20 countries globally in fixed broadband index with the fastest average download speeds, as reported on the Speedtest Global Index™.

This global recognition is a result of the relentless efforts of UAE leadership for the past 50 years, and is a shining example of nation building with the growth and development achieving endless success. This is also in line with the late Sheikh Zayed's vision to lay the foundation for future generations to build on.

Thanks to the support of the UAE's wise leadership, our partners, and the regulatory authority Etisalat achieved leadership with the launch of the 5G network and succeeded in achieving the highest penetration rate in Fiber to the Home (FTTH) globally for a third consecutive year.

Q. Can you take us through your international portfolio performance?
A. Etisalat Group today operates across 16 markets in Middle East, Asia and Africa in addition to the UAE, the group also operates in Saudi Arabia (Mobily), Pakistan (PTCL), Afghanistan (Etisalat Afghanistan), Egypt (Etisalat Misr) and Morocco (Maroc Telecom) with its operations in Benin, Burkina Faso, Central African Republic, Gabon, Ivory Coast, Mauritania, Mali, Niger, Chad and Togo. Many of our markets witnessed strong performance during the first half of the year resulting in a YoY increase of 7 percent bringing the aggregate subscriber base to 156 million. This reflected positively on the profits of the company that amounted to AED 4.7 billion representing an increase of 3.9 percent over the previous year.

For instance, Maroc Telecom witnessed an increase in subscribers with a growth of 8 percent bringing the total number of subscribers during the first half of the year to 73.6 million subscribers. This growth was driven by growth in operations in Mali, Burkina Faso, Ivory Coast, Chad, Benin, Mauritania and Gabon.

With growth from fixed broadband and international subsidiaries, Maroc Telecom's revenues for the second quarter of 2021 amounted to AED 3.5 billion representing a YoY increase of 8 percent. Moving ahead to maintain this positive growth, Maroc Telecom will focus on investing in high speed broadband to meet the rising demand of voice and data services. This also applies to the other markets in which Etisalat operates where we continue to enhance infrastructure and invest in new technologies building the fastest networks in the world.

As part of its efforts to consolidate leadership in the markets it operates, Etisalat Group aims to increase its stake in Maroc Telecom from 48.4 to 53 percent, which will contribute positively to the profits of the group in the long run.

In Egypt, Etisalat Misr witnessed growth from mobile data and national roaming revenue, with an increase in subscribers by 3 percent bringing the revenues of second quarter to AED 1.2 billion, an increase of 27 percent YoY and 8 percent quarter over quarter. Etisalat Misr also continued to invest in innovation across verticals with partnerships like Canal Sugar Company, the first of its kind in the agricultural sector to digitally transform their financial transactions.

Etisalat Misr was also ranked among the second fastest download/upload speeds

in the country. Keeping in line with its ambitions to provide its customers the best in services and content, along with E-Vision it launched 'Etisalat TV', a state-of-the-art app enabling viewers to enjoy both English and Arabic movies, series and Ramadan productions across smart devices anywhere and anytime.

In Pakistan, our operations witnessed growth mainly due to the positive contribution from all operations particularly fixed and mobile broadband and Ubank services leading to an increase in subscriber base by 3 percent to 25.6 million. This was positively reflected in revenues with a 16 percent YoY growth.

The rise in subscribers and revenue was due to the continuous investments during the year, PTCL increased its investments considerably to reinforce its digital footprint for maximum reach and engagement. PTCL also maintained market leadership in the fixed-line market, despite growing competition from Fibre-To-The-Home (FTTH) operators.

Another historical milestone was to increase and diversify with foreign investments accelerating growth that will help diversify the investor base and add further value to our current shareholders as well as bring liquidity and depth in Etisalat's financial capabilities. This strategic development is a catalyst to achieve strong results in the future accelerating growth expectations in the coming period.

Q. What are Etisalat's plans in expanding its capabilities across its footprint?
A. The Group is continuously investing to develop the required capabilities across its footprint to address the evolving requirements of the various customer segments. To fuel growth both in the home market and internationally, Etisalat will continue to develop unique competencies, both organically as well as through selected mergers and acquisitions in priority areas. As part of this strategy, in 2020, Etisalat Digital, a dedicated business unit of the Group, completed the acquisition of Help AG's businesses in the UAE and KSA. Help AG is one of the leading cyber-security companies in the Middle East and North Africa (MENA) region.

As we move ahead, the Etisalat Group's strategy will remain open to growth opportunities through a majority control of well-positioned operators in target geographies. With the world continuing to adjust to the 'new normal', the Group will also stay focused on its strategic objectives of maximising value from its core business; growing revenue from its digital/adjacent services; transforming into an efficient, agile, digital Group; and expanding and optimising its portfolio in order to balance growth and shareholder returns.

Q. What were Etisalat's main goals this year?
A. This year Etisalat has remained focused on pursuing its vision of transitioning to a complete integrated ICT/digital solution provider securing its position as an industry leader by working on our main goals: reshaping the lives of consumers, accelerating the economic growth of businesses and enhancing the competitiveness of the countries in which it operates.

With changing market dynamics, the focus was combining organic and inorganic growth opportunities to position Etisalat as the regional leader in Internet of things (IoT), cloud, security, edge computing and Artificial Intelligence (AI). This was achieved by capitalising on opportunities such as megaprojects and smart city and Industry 4.0 projects across multiple verticals, including health, education, logistics and oil and gas (O&G). We also focused on taking all necessary measurements to protect our employees and provide the latest solutions to our customers

Q. How are you making an impact in the ICT and digital domain with your solutions especially for the public and private sector?
A. Etisalat's 5G network will amplify the use of these futuristic services, target new opportunities, and implement 5G use cases across verticals. Our teams are constantly working on opportunities to deploy services based on emerging technologies such as IoT, cloud, big data, AI, robotics, autonomous, AR/VR, becoming a trusted partner that supports transformation in a digitally disrupted and fully connected world.

Expo 2020 is a prime example of Etisalat's solutions aimed at enhancing the digital experience for visitors with technologies such as AR/VR. Services being hosted on the private and public clouds are one of the key priorities to provide redundant, fast and available connectivity between Expo 2020, its site offices, partners, public and enterprise services.

Our IoT platform connected over 1 million SIMs with renowned entities such as Emirates Transport and Xtramix for fleet solutions and Ministry of Interior for Hassantuk Smart Fire Alarm solution, which have had a massive impact on saving lives and enhancing the state of security for the country.

Q. Can you give us insight into Etisalat's sustainability initiatives and objectives?
A. We believe in the positive impact that technology can bring and strive to adopt technologies that ensure long-term benefits to our environment and the climate. Sustainability remains at the core of our strategy and operations aligned with the UAE Vision 2021 and the United Nations Sustainable Development Goals (UN SDGs).

The 'Connected Mangroves' conservation project in UAE is another noteworthy project combining IoT, cloud, mobile broadband technology that will help better manage the growth of new mangrove saplings by monitoring water level, humidity, soil moisture, temperature, and other important parameters critical to the healthy growth of the mangroves.

Another major step was our green efforts, where we have increased business via our digital channels, digital payments allocation and implemented digital self-serve options. The brick and mortar experience was transformed to both online and digital retail with self-service touchpoints expanding the rollout of 'Smart Stores'.

As part of our efforts to move towards a paperless environment, we have also achieved many automation initiatives, including the switch of paper billing to digital copies as part of the Etisalat 'Go Digital' drive.

Etisalat also undertook a series of energy conservation mechanisms, including the installation of high-efficiency cooling systems at various Etisalat exchanges and data centres and AI features at mobile access sites.

Over the past 10 years, Etisalat has replaced all the cables, deploying to date over 10 million km of fibre optic cables, saving over 3,044 GWh of energy per year. This has also resulted in the annual savings of over 1.8 million tonnes of carbon dioxide in greenhouse gas emissions.

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Saudi Telecom Commits to Minimum Dividend Policy for 3 Years

The board of Saudi Telecom Co. (STC) approved a three-year dividend policy with effect from Q4-2021, continuing its policy of committing a fixed minimum dividend. The telecom operator said in a bourse filing that it will pay a fixed minimum dividend of 1 riyal ($0.26) per share per quarter for the next three years. The telco will also consider paying additional, one-off dividend, subject to the board approval, assessment of financial situation, outlook and capital expenditure requirements. This one-off dividend may differ on a quarterly basis, based on the company's performance, it added. The telecoms provider, the largest in Saudi Arabia, has committed to such a policy since 2016.

stc and Dawiyat Integrated, Signed Partnership Agreement to Cooperate in Providing IoT, Digital Infrastructure, and Services to Business Customers

stc and Dawiyat Integrated Telecomm-unications and Information Technology Company, fully owned subsidiary company of Saudi Electricity Company (SEC), will collaborate to further develop the Internet of Things (IoT) ecosystem in the country. stc network coverage and Dawiyat's vision and digital capabilities will together help in building next generation IoT services. This agreement will allow Dawiyat to use the data bandwidth and wireless stc network on wholesale basis hence enabling Dawiyat to offer a whole range of vertical solutions including those for the energy sector and Smart City services including smart metering, smart grid, connected cars, smart safety and security and health solutions to businesses and citizens. The strategic collaboration will also enable Dawiyat to address complex IoT implementations for organizations in the country. These businesses will benefit from rapid application development features, reduced time to deployment and out of the box IoT analytics and dashboard to see the complete picture of their IoT data. stc will provide Dawiyat with access to its mobile network including low power wide area (LPWA) technologies all over the Kingdom meeting the demand of connected devices. stc wide mobile network coverage will allow best wireless connectivity for indoor and outdoor sensors and devices to connect with Dawiyat robust IoT platforms, allowing customers to accelerate their IoT footprint expansion and transform their businesses. Mohammed Alabbadi, Chief Wholesale Officer at stc, said: We at stc are proud to build a community of VNOs (Virtual Network Operators) to meet the growing needs of customers in the Kingdom of Saudi Arabia. This agreement with Dawiyat Integrated comes in line with Vision 2030 of increasing digitization in the Saudi market by increasing IoT and M2M offerings in many industries. Dr. Ahmed Sindi, CEO of Dawiyat Integrated, said: We are excited to strengthen our cooperation with STC. This agreement will help Dawiyat to create IoT capabilities and innovative solutions to serve our customers. Dawiyat's platform will drive IoT across key industries like Energy, Government, Healthcare, Utilities, Manufacturing, Transport and Automotive. These companies will be able to track assets and improve logistics; and gather data from smart city applications to make peoples' lives easier. They can also improve service for their customers by automating manual functions, from meter readings to security measures. The move will bolster Saudi Arabia's IoT adoption across SMEs, large organizations, and the government. This reflects our efforts to enhance the Kingdom's position as a regional innovation hub in support of Vision 2030.

stc Group Has Confirmed the IPO From Solutions By stc, One of the stc Group Companies

Eng. Olayan Mohammed Al-Wetaid, Group Chief Executive Officer of stc Group has confirmed that the IPO from solutions by stc, one of the stc Group companies, came in line with our strategic direction towards growth as part of our pursuit of several ambitious digital projects. This enables us to develop innovative digital products and tap new markets, and also support our efforts in sustainability and governance. It also gives us a stronger presence at the local, regional and international levels,

helping us to be a leader and the top provider of ICT services not only in the KSA, but also in North Africa and the Middle East region." Al-Wetaid also pointed out that this IPO is a new paradigm and a significant shift in supporting companies operating in the ICT sector, as those companies play key roles in the KSA Vision 2030, investing in technology is a priority that supports development at different areas in KSA, at stc, we work on making contributions to this Vision and giving the

opportunity to corporate and individual investors to join us on this journey. We rely on an ambitious strategic plan to support sustainable growth and this step is a part of stc Group support for digitization in all sectors through an integrated package of services provided by the Group and its companies, this supports success of solutions by stc as a part of the stc network of companies, turning it from a 100-million-riyal acquisition into a company with an estimated value of SR 18 billion.

stc Looking to Raise USD966m From STCS Share Offering

Saudi Telecom Company (stc) is seeking to raise as much as SAR3.62 billion (USD966 million) from the planned initial public offering (IPO) of its products and services development arm Solutions by STC (STCS), also known as Arabian Internet

and Communications Services Company.

The company is planning to sell 24 million shares (20% of the total share capital) at a price of between SAR136 and SAR151, giving STCS a valuation of SAR18.1 billion. The Capital Market Authority (CMA) approved the planned IPO in June 2021.

Etisalat Named Best Regional SMS Service Provider at CC Global Awards 2021

Etisalat announced that it has been awarded the Best Regional SMS Service Provider at the fifth annual Carrier Community (CC) Global Awards ceremony on 2nd September in Berlin. The CC Global Awards, which are independently judged by a panel of telecom analysts and experts, recognize innovations and achievements among telecom wholesale operators and ecosystem partners around the world. The Best Regional SMS Service Provider award

is given to an entity with a unique service or an initiative that demonstrates the most effective and new service or solution and can illustrate the business benefits derived from it. Commenting on the award, Ali Amiri, Group Chief Carrier and Wholesale Officer, Etisalat, said: "We are honored to receive the 'Best Regional SMS Service Provider' award, which highlights Etisalat's continued success as a tier-1 mobile carrier, through its wholesale comprehensive

messaging value proposition, to establish its market position as a leading regional wholesale SMS carrier. This recognition is a testament to our continuous and value-focused innovations – a key driver to our success in the wholesale business. "It is worth noting that Etisalat has made considerable investments in developing its messaging service to address market requirements and has started offering wholesale SMS termination services to various partners and customers by leveraging its extensive global connectivity with mobile network operators." Over the past five years, Etisalat achieved massive growth, transiting billions of messages to various mobile network operators via Etisalat's messaging hub. This fast growth came as a result of a strategy centered on a number of key elements, including a value of proposition with a host of benefits and features such secure and reliable delivery of messages, advanced online tools and capabilities, and competitive

pricing. Etisalat recently invested in a state-of-the-art messaging platform with a number of advanced features to ensure a best in class quality service, efficient cost routing, mobile number portability, security services including firewall, online portal with a dashboard and other tools, and application programming interfaces (APIs) interconnection capability. Etisalat's regional sales presence in the Middle East, Europe and Asia resulted in growing the wholesale application-to-person (A2P) customer base to EMEA & Asia regions, getting closer to end customers.

Etisalat Highlights Rapid Growth of SmartHub Data Centers

Etisalat's SmartHub community of customers is witnessing a massive growth, mainly due to its diverse and complete ecosystem offering an ideal environment for interconnecting and its proximity to regional end users, said Ali Amiri, Group Chief Carrier and Wholesale Officer, Etisalat "As one of the biggest neutral carrier hotels, Etisalat's SmartHub data centers will be an ICT bridge between continents always supporting critical business activities of global customers. We at Etisalat are committed to making 'SmartHub' a preferred location for carriers, cloud service providers, Internet exchanges and companies looking for a carrier grade data centers," Amiri said. SmartHub is a trusted digital enabler for global customers from various industry verticals including, telcos, OTTs, cloud players, content delivery networks, financial services, and gaming platforms. It also has direct access to multiple independent subsea cable system, interconnecting Europe, US, Asia, Middle East and Africa, which makes it capable of serving more than two billion people within 30 milliseconds latency to guarantee a superior customer experience. SmartHub is the largest hub of submarine cable landing station in the region, allowing access to a list of wholesale services including data, voice, mobile, and satellite teleport services as well as Internet and IPX Exchange and offers flexible services and pricing models. Recently, Etisalat was recognized as 'Best Regional Data Centre Operator' at the fifth annual Carrier Community (CC) Global Awards ceremony in Berlin. The 'Best Regional Data Centre Operator' award recognizes an entity with a unique service or an initiative that demonstrates the most effective and new service or solution and can illustrate the business benefits derived from it. Commenting on the award, Amiri said: "Through our commitment to excellence and innovation, Etisalat's SmartHub became one of the fastest-growing wholesale data hubs in the regions it serves including the Middle East, Africa and Europe. SmartHub is a key element of the digital infrastructure in the region, and will continue to offer its customers a world-class service that meets their evolving requirements." Etisalat SmartHub is a multiservice carrier-grade wholesale data center in Fujairah, The SmartHub ecosystem currently has three facilities, namely SmartHub Fujairah 1, SmartHub Fujairah 2, and SmartHub Dubai. Etisalat is currently building a fourth SmartHub facility in the UAE, which is expected to enter service in the first quarter of 2022. The new facility is set to increase Etisalat's capabilities and global capacity to meet its international clients' growing needs for infrastructure across Asia, Africa, Europe, Middle East and the Americas. With the expansion, Etisalat's Carrier and Wholesale Services has set a benchmark in the region, and is a testimony to the company's strategy to 'Drive the digital future to empower societies'. It is also in line with UAE leadership's vision to continue leading as an ICT and data hub for the region addressing the diverse requirements of global telecom infrastructure.

Etisalat Group Secures Required Approvals for Increasing The Foreign Ownership Limit in its Share Capital to 49%

Further to the Company's announcement dated 20th January 2021 concerning increasing the foreign (non-UAE nationals) ownership limit in Emirates Telecommunications Group Company (Etisalat Group) PJSC share capital to 49%, please be informed of the issuance of Federal Decree by Law No. 1 of 2021 concerning the amendment of some provisions of Federal Decree by Law No. 1 of 1991 concerning Emirates Telecommunications Group Company, whereby Article 7 thereof was amended to increase the foreign shareholding limit in the Company's capital to 49%. Moreover, all the necessary approvals for amending the Company's Articles of Association have been secured. Based on the above, increasing the foreign ownership limit in the Company's share capital has come into effect.

Etisalat Group CEO Highlights UAE's Push for Innovation Making it a Destination for Everything Digital at GSMA Mobile 360 Eurasia Conference

The mobile industry is becoming a great enabler across economies, by continuing to build partnerships across industries to enable meaningful economic growth, expand employment opportunities, and empowering societies at large, emphasized Hatem Dowidar, CEO, Etisalat Group, at his opening keynote on the first day of the GSMA Mobile 360–Eurasia in Moscow. Dowidar participated in the fourth edition of GSMA Mobile 360–Eurasia with his keynote, followed by a panel discussion on 'Empowering a Data-Driven Society' with C-level executives from telcos, infrastructure companies and technology providers. Main discussion points focused on how crisis accelerates innovations presents a choice, and is the key to unlocking post crisis growth with technologies such as AI, 5G, Big Data, and IoT shaping the future and transforming lives rapidly, reimagining a more connected society. "The mobile industry has an unrivalled global reach and remains committed to actively working with governments, international institutions across global and regional platforms. Progressive governments play an important role in a data-driven economy, reaping benefits with a robust infrastructure and a much more evolved regulatory environment supporting this advancement. "The UAE is a great example;

the leadership's efforts became a beacon for Etisalat and others to work tirelessly to support the country to become one of the top five countries around the world in terms of its technology infrastructure, ICT adoption, and investment in telecom services. This has in turn inspired Etisalat to continue with its investments in building the world's fastest network and cutting-edge technologies of the future." The GSMA Mobile 360 – Eurasia conference featured case studies and discussions aimed at top-level regional and international decision makers focusing on how to harness new technologies to

build and maintain a competitive business advantage, to drive new social and business opportunities, to increase revenue while also ensuring security. The two-day event also saw the participation of ministers, telecom regulators, data protection authorities, identity authorities, and senior representatives from international organizations to discuss the growth of the global digital economy. Discussions will focus on technological breakthroughs that bring solutions with the potential to enrich our everyday lives, and free people from mundane tasks, solving complex problems and generating value and prosperity.

Etisalat Reasserts Dominance as World's Fastest Mobile Network for the Second Consecutive Year

Ookla®, a global leader in fixed broadband and mobile network testing applications, data and analytics, recognized Etisalat as the world's fastest mobile network operator in 2021, reaffirming its dominance for the second year in a row. This global recognition positions the UAE as the fastest nation on earth as it continues to reign the mobile speed country index on its 50th anniversary celebrations, fulfilling its objectives to create a better tomorrow with a brighter future. At an awards ceremony held at Etisalat's Al Kifaf building in Dubai, Masood M. Sharif Mahmood, CEO, Etisalat UAE Operations, received the award in

the presence of Etisalat Group's CEO Hatem Dowidar, key Etisalat management executives, and representatives from the technology department. The ranking is based on analysis by Ookla® of millions of tests actively initiated by customers across every network to check internet speeds using various applications on web and mobile platforms. The Speedtest Awards™ for top network providers are determined using a 'Speed Score™' that incorporates a measure of each provider's network speeds (download and upload) to rank network speed performance. With an average download speed of 193.88

mbps and an overall ranking in the 'Speed Score' at 153.05, Etisalat is the only operator globally to rank higher than 150 as per Ookla® Speedtest® data. Etisalat is the winner of the Speedtest Awards™ for both fastest mobile network globally and fastest fixed broadband network in GCC during Q1-Q2 in 2021. Doug Suttles, CEO and co-founder of Ookla, said: "Speedtest Awards™, presented by Ookla®, are reserved for an elite delegation of network operators that have delivered exceptional internet performance and coverage within a market. "It is our pleasure to present Etisalat with the awards for World's

Fastest Mobile Network, as well as Fastest Fixed Network in the GCC region. This recognition is testament to their exceptional performance in Q1-Q2 based on Ookla's rigorous analysis of consumer-initiated tests taken with Speedtest." Etisalat's individual efforts in building one of the most advanced networks have greatly impacted the country's overall performance. As a result, the UAE was ranked the fastest country in the world in January-June 2021 for average mobile download speed, as reported on the Speedtest Global Index™. Masood M. Sharif Mahmood, CEO, Etisalat UAE, said: "This global recognition is an acknowledgement of the strong determination and sincere efforts of our leadership in building a country that has grown in all sectors, pushing it to the digital forefront to become the fastest nation in the world. We pride ourselves to be part of this inspiring journey, celebrating 50 years of staggering growth and building the nation to be a global player and leave a mark in history." "The continuous support of the UAE government with several incentives and a supportive environment and working in line with Etisalat's strategy to 'Drive the digital future to empower societies'

enabled it to consistently push boundaries to create the world's best and leading networks across our markets and deliver long-term value to all our stakeholders, accomplishing our goals of driving digital innovation for a better future." Fast mobile internet speeds enrich the customers' experience and enhance the level of mobile services, as well as support all business segments. Etisalat has ever since been the first in the region to take a lead and launch previous generations

of the network mainly 3G, 4G and 5G. As a previous winner of the Speedtest Awards™ for fastest mobile network and fastest broadband network in the region for 2020, Etisalat amplified its efforts on improving the mobile network, supporting business continuity in a work-from-home environment, facilitating distance learning, and providing entertainment to families at home.

Mobily Signs Agreement to Scale Up 5G Technology Applications in the Region

To enhance its position in 5G services and accelerate the use of 5G applications by all sectors and consumers in Saudi Arabia, Mobily has signed an agreement with Ericsson (NASDAQ: ERIC) to exchange

experiences and avail of its global program for partnerships in 5G applications that will help it contribute to the digital economy mandate of Vision 2030. The program allows partnerships between

communications service providers, leading companies and startups aiming to develop innovative solutions and applications over 5G.

Omantel Once Again Named the Middle East Regional Operator of the Year

Prestigious recognitions continue for Omantel as Oman's telecommunications giant stays on its course of superior services, expansion, innovation and being an enabler in the Sultanate's digital

transformation. Omantel has been named the "Middle East Regional Operator of the Year" for the second consecutive year at the Carrier Community Global Awards, announced in Berlin during the month

of September 2021. This international recognition reflects the company's unmatched success on the Wholesale front and Omantel's overall outstanding performance. The award is a testimony

to Omantel's sustained efforts towards strategic global wholesale integration programs, further underscoring its forward-looking approach. Speaking about the achievement, Sohail Qadir, Vice President of Wholesale Business Unit at Omantel, said, "We are extremely delighted and honoured to win the Middle East Regional Operator of the Year Award for the second consecutive year. We would like to take this opportunity to sincerely thank the Carrier Community for this important recognition which shows their trust in Omantel. It is indeed a remarkable achievement and a true reflection of the continuity and sustainability of our work. This comes as a natural result of several successful initiatives and projects on the wholesale domain as well as the collective performance of the company. The future looks bright, and we are working on various unique opportunities that will keep us in the leading position of the wholesale industry in the region and further strengthen our global presence". On the other hand, Wida Schmidt, the Co-Founder of the Carrier Community commented, "Our fifth edition of the Carrier Community Global Awards recently took place in Berlin. We keep observing increased participation and higher demand which reflects the successful growth and engagement that our events are generating in the carrier and wholesale industry. Omantel has always been a key player in the wholesale domain and we see that their role is becoming more significant and noticeable year after another. Our judges panel, formed by high profile industry experts, found merit in rewarding Omantel for their extraordinary achievements through the Middle East

Regional Operator of the Year award. We are confident that Omantel will continue to effectively contribute in modernizing the wholesale industry in the MENA region and take it to the next level". Through its Wholesale Business Unit, Omantel serves local and international telecom operators by providing them with state-of-the-art telecom solutions in terms of interconnection, internet access, connectivity, infrastructure, roaming, and more. Omantel Wholesale has undergone an extraordinary transformation journey over the last decade, from being a party dependent on other regional wholesale providers for fulfilling its own requirements to becoming a main wholesale provider serving telecom operators and content providers locally, regionally, and globally. Such a remarkable transformation was achieved through an ambitious and well-defined strategy that capitalized on Oman's unique geographical location, attracted investments in human and network assets and created new business models. All of this resulted in gradually changing the wholesale landscape and eventually made Omantel Wholesale the industry leader. Instead of relying on individual projects, Omantel Wholesale introduced the "Global Wholesale Integration Program", a comprehensive program focused on various wholesale strategic pillars such as:

- Building an international, diversified and high-capacity submarine network connecting Oman with the rest of the world. This network includes investments in more than 20 global submarine cable systems with reachability to more than 120 cities across the globe. Omantel also

became the first GCC operator to land a submarine cable in the European Union through its landing station in Marseille under the AAE-1 submarine cable which is one of the largest systems of its kind.

- International Network Operations Centre (INOC), a state-of-the-art 24/7 facility that is specifically tailored to meet the needs of the cloud and content-centric market besides monitoring and supporting Omantel's international terrestrial or submarine cable systems.
- MC1, the region's first carrier-neutral data center located in Barka, in partnership with Equinix, the world's leading international data center operator.
  - Continuous rollout of international roaming with more than 685 operators in over 210 countries in addition to the recently introduced 5G data roaming services.
  - Omantel International (OTI), which is an international wholesale company managing the group's international voice carrier business as well as international value-added services.

These game-changing approaches, to name a few, have thrust Omantel into the wholesale leadership position. As a result, the biggest international telecom operators and content providers are partnering with the company and even hosting their regional servers in Oman. Consequently, almost 80% of the internet access of Omantel's users is now served locally. Such partnerships, in addition to business and economic benefits, are directly linked to enhanced customer experience on all fronts including access to high-speed internet and gaming. The Global Wholesale Integration Program is dynamic and keeps evolving to cover the future needs of Omantel and its clients. It undergoes continuous updates and enhancements to stay on par with global developments. In addition to excellence in wholesale, Omantel has demonstrated success in various other domains. It is the first telecom operator to launch 5G (fixed and mobile) in Oman and open the doors to new possibilities. It has introduced Omantel Innovations Labs to nurture talent and convert creative ideas into realities. The company continuously works on enhancing services, offers and customer experience.

Omantel's ICT Offerings Fuel the Digital Economy

Since the beginning of time, humans have evolved every single day in intellect and capacity. The result is the world we currently live in, abuzz with things our minds have created and on which, our way of life largely depends. The information & communication technology has now become the foundation on which the 4th Industrial Revolution is riding, and Omantel is leading the way in national, regional, and international landscape. Which is why, at the core of Omantel's philosophy is the constant endeavor to harness the expanding ICT potential and making it available for the private & public sectors so that they optimally benefit from its infinite scope in different applications. Omantel's ICT repertoire encompasses broad segments, which are Unified Communications, Cloud & Data Centre Services, Software as a Service and other Managed Services which form the axis of Omantel's ICT solutions as these fields are what give users the cutting edge solutions and enable the digital eco system to grow and thrive using Omantel's smart fixed & mobile connectivity solutions. Unified Communications Omantel stands apart for its customer experience and takes this service beyond its traditional definition. The Company's Virtual Contact Centre that is being offered to the enterprise customers is not just a call center, but a hub where services demands of various customer segments are met and are apt solutions provided. It is a full contact center ecosystem that has required no capital investment nor hardware, provided complete solutions, and gives the flexibility of pay as you go. The emergence of COVID-19 as a prolonged threat to

health required proactive solutions, and Omantel was quick to offer video conferencing and screen sharing solutions through Cisco Webex Meetings, which has ensured business continuity during remote working while maintaining health safety during unprecedented times. Similarly, in cooperation Microsoft, Omantel availed a remote collaboration & video conferencing solution for Enterprise customers, called Microsoft Teams that allows remote workers to meet, call and collaborate virtually. These easy-to-use solutions have boosted organizational productivity and broadened team collaborations in addition to Omantel's flexible per-user payment option, off-the-shelf products and varied customized modules to cater to specific needs. Omantel also brings enterprise-grade IP Telephony Solution (PBX) to customers with PBX system & SIP/PRI connection that is customized and offers end-to-end solution including connectivity.

Software as a Service

Microsoft products offered by Omantel include Office 365 suite, a complete IT solution that allows users to work from anywhere on all devices and up-to-date apps with annual subscription. All Microsoft products and suites subscriptions are made accessible to customers through digital delivery.

Human Capital Management & customized software are brought to customers through partnership with the industry leaders. These set of enterprise grade software solutions come with wide range of benefits like hybrid deployment models, end-to-end solutions including hosting and connectivity and offer immense flexibility

in payment options and can be hosted in Omantel Data Centre or in customer premise.

Omantel's ERP solution is a one-stop world-class technology solution that is quick to implement and affordable tool for SMEs to run their entire resource planning from a state-of-the-art locally hosted platform. A single application offers full control of all main business areas including financial, sales, customer relationship management, vendor relationship management, inventory, purchasing, planning and reporting, thus saving costs and paving way for increased profits.

Cloud and Data Centre Services

What sets Omantel apart in a crowded field of cloud and data centre services are its state-of-the-art infrastructure, quality, security, speed, efficient and customer-centric approach. Omantel has been providing all kinds of datacenter services augmented with cyber security. Highlights like zero capital investment in hardware, payment flexibility and end-to-end solutions like the Email Hosting, SSL Certification, web hosting, domain registration, cloud server, Enterprise Virtual Private Server (VPS) among others underscore the many benefits of offerings.

Getting 'smarter'

The Company has been leading digital transformation from the front, and Smart City Solutions are a major component of its ICT offerings, touching the lives of people every day, in every sphere. Omantel is leveraging IoT to manage the public facilities, safety and security, parking, streetlights, traffic management, waste management, and many other services. Smart health solutions have remained a

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part and parcel of Omantel's ICT offerings and have grown in importance since early 2020 with the pandemic's outbreak. These solutions have improved productivity & boosted the efficiency through asset tracking, patient tracking, virtual health clinics etc. It has partnered with Siemens to bring new e-health solutions to Oman's healthcare sector. To help organizations overcome health and safety vulnerabilities, Omantel has developed technologies that are essential to mitigate COVID-19 risks by providing a powerful workplace intervention using the latest technologies that are capable to easily transform how we work and interact. Some of these solutions includes temperature & face mask detection and people count; AI enabled chatbots for customer service, contactless biometrics and e-signature solutions that electronically prepare, sign and manage documents and agreements. The latest implementation of Omantel's ICT solutions has been at the Duqm Special Economic Zone. Here, in association with the ASYAD

Group, Omantel launched Smart Video Surveillance as a service trial powered by its 5G network and offered high speed internet service for ships anchoring at the Drydock. Also, Omantel and Huawei entered a tri-party Proof of Concept (POC) Memorandum of Understanding (MoU) with Hutchison Ports Sohar for showcasing successful utilizations of the telecom giant's 5G infrastructure in boosting communication services and improving operational efficiency, accuracy, time management and security, among other services. Education as a Service Omantel is collaborating with OMREN (Oman Research and Education Network, an initiative by The Research Council) to establish a national ecosystem that supports Oman's Research and Education community and connects it with international community. Other Managed Services Innovation is the foundation for all Omantel's ICT solutions. TASIL epitomizes this emphasis. An innovative, real-time online advertising platform,

TASIL has been enabling Omantel's enterprise clients to attract customers with map-enabled precise location filters and real-time marketing campaigns with measurable and meaningful reports. While registration is free, TASIL offers flexible pay as you go payment option and competitive tariffs through different communications channels like SMS & Whatsapp. Another managed solution for SMEs is the is Omantel's "Office Out of the Box" which is covering fixed business internet broadband, mobile packages and ICT services in one monthly bundle. Omantel continues to briskly march ahead on its path as an important economic driver effectively handling challenges and hurdles like risks to society from information overload, monitoring and infrastructural needs to name a few, using proactive, focused and positive approaches that include infrastructure expansion, acquisitions, strategic partnerships with leading ICT product providers, network services and technical knowhow.

Zain Launches Online Campaign to Reinforce Environmental Awareness
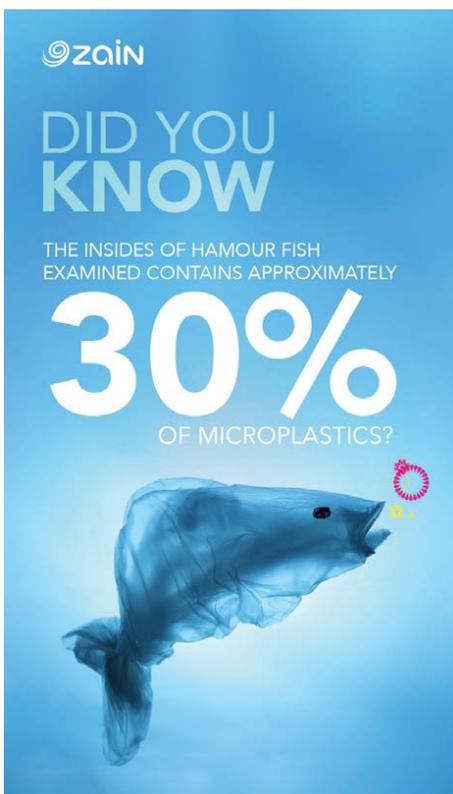
Zain, the leading digital service provider in Kuwait, launched #ActivateYourRole, an online awareness campaign on its official social media platforms that aims at raising public awareness towards climate change, sustainability, and preserving natural resources. Commenting on the new campaign launch, Zain Kuwait's Chief Corporate Communications and Relations Officer Waleed Al-Khashti said: "We launched #ActivateYourRole as part of our corporate sustainability and social responsibility strategy towards the environment. Through this strategy, we are committed to building climate change scenarios that are aligned with the Paris Agreement (2015) to reduce carbon emissions and mitigate physical and environmental risks." Khashti added: "Zain is well aware of the urgent need to tackle the climate crisis the world is facing today. To achieve sustainable growth, we must protect the environment and preserve its resources." Khashti further explained: "We are keen on supporting

any efforts that serve sustainability and environmental goals, as we believe this is a crucial topic that affects everyone. Zain's social message seeks to tackle the most important issues and reinforce the role of individual efforts like preserving natural resources, decreasing consumption, recycling, and other concepts that will contribute to reducing the impacts of climate change." Khashti continued: "Through this campaign, we use our social media platforms to spread facts that many people might not have heard of before. These facts show the shocking impacts of climate change on our health and on the environment around us. We hope this message encourages positive change and brings more efforts towards achieving sustainable goals in Kuwait." Khashti concluded: "Our part does not stop at raising awareness and supporting environmental programs, but also extends to reducing our own footprint. Zain continues to exert more efforts into reducing the environmental footprint of its operations,

including preserving natural resources, reducing energy consumption, recycling waste, implementing green solutions for water and electricity management, monitoring the company's overall effects on climate change, and more." Zain is keen on launching such initiatives that contribute to preserving Kuwait's environment, as well as encouraging volunteering, recycling, and taking part in social activities for all age groups within the community. The company will spare no efforts to contribute to spreading positive awareness for a better environmental culture in the society. Throughout recent years, Zain took major steps to tackle

the impacts of its own environmental footprint by setting a number of goals to lower carbon emissions, reduce waste, spread awareness, as well as identifying the threats and opportunities related to climate change. In 2019, Zain became a member of the team responsible of tackling the impacts of climate change within the GSMA. The company's long list of efforts in sustainability areas also led it to become a member of the Community Development Program (CDP), especially when it took the decisive step to reveal the impact of its operations on the climate, such as its energy consumption rates and greenhouse gases emissions.

Zain successfully managed to become a member of the CDP with an advanced B rating, making it the first telecom operator in the MENA region to receive this rating in combating climate change. Zain is committed to contributing to regional and international efforts to help with the policies and regulatory reforms, such as the ones stated as part of the Paris Accord that was drafted by the United Nations. This is done through setting goals to lower emissions, reducing waste, coordinating with Sustainability Developmental Goals (SDGs), as well as other joint efforts.

AT&T CTO Outlines 6G Vision

AT&T CTO Andre Fuetsch outlined a vision of wireless technology with 100-times the capacity of 5G during the 6G Symposium, an online event. Like 5G, 6G will push radio communications into higher frequency bands, Fuetsch said. The technology "will push the spectrum envelope to the terahertz region, with throughputs 100-times that of 5G". He added the lower spectrum bands will continue to serve as "the backbone for wide area coverage". The next generation tech "is almost a decade away, but we need to start defining it now", Fuetsch said noting AT&T's leadership role in the Next G Alliance, a group which "intends to drive actions with governments and industry". Fuetsch said 6G will likely not be part of a 3GPP Release until "after Release 19 or 20", and will not be commercialized until around 2030. The line between the RAN and

core will blur with 6G Fuetsch predicted, as these elements will be collocated in some instances. He described 6G as a "network of networks", including aerial access points, non-public networks and Wi-Fi integration. End points could include "screen-less skin-wearable devices". The promise of 6G is an "ambient internet of everything that brings intelligence to living and business environments". He called for more research into technologies to enable 6G, including volumetric spectrum sharing and efficiency, intermodulation interference, energy management, battery life and "further integration of software communities with standards and processes" to "allow for quicker testing of features". Fuetsch is the chair of the O-RAN Alliance. He stressed the need for open architectures, disaggregation of

network elements, and interoperability as the industry moves towards the next generation of wireless technology. He said AT&T's strategy "is to adopt and implement open RAN as technology becomes available".

AT&T to Use 5G and MEC for Naval Research

AT&T detailed a move to install 5G and MEC equipment at the US Naval Postgraduate School (NPS), part of efforts to help the military explore ways to use the technologies to enhance national security. Chris Smith, VP of civilian and shared services at AT&T Public Sector and FirstNet, told Mobile World Live NPS wants to connect unmanned vehicles in the air, on

the ground and subsea. AT&T is deploying mmWave spectrum, citing research this can detect underwater sonar signals as they reach the surface. Smith explained 5G could be a good connectivity option for submarines, providing a way to transmit information without surfacing the vessel. It will also install a 4G- and 5G-compatible mobile tower at the naval facility. Edge

compute resources will be co-located with the tower, creating a way for NPS to process information on-site using a mix of hardware and operating systems, Smith explained, adding this will enable NPS to use AR and VR services. The research is part of a three-year R&D agreement signed by AT&T and NPS in 2020.

AT&T and OneWeb Plan Satellite Access for Business in Remote Areas Across the US

AT&T has signed a strategic agreement with OneWeb, the low Earth orbit (LEO) satellite communications company, to harness the capabilities of satellite technology to improve access for AT&T business customers into remote and challenging geographic locations. The new connectivity will complement existing AT&T access technologies. Why is this important? AT&T's leading business fiber network enables high-speed connections to over 2.5 million U.S. business customer locations. Nationwide, more than 9 million business customer locations are within 1,000 feet of AT&T fiber. I However, there are still remote areas that existing networks can't reach with the high-speed, low-latency broadband essential to business operations. Who can use this? AT&T will use this technology to enhance connectivity when connecting to its enterprise, small and medium-sized business and government customers as well as hard-

to-reach cell towers. Where will it work? The AT&T service will be supported by OneWeb's network of satellites. OneWeb has launched 288 satellites and expects to attain global coverage with a total fleet of 648 satellites by the end of 2022. AT&T business and government customers in Alaska and northern U.S. states will be covered later this year. What are people saying? "Working with OneWeb, we'll be able to enhance high-speed connectivity in places that we don't serve today and meet our customers wherever they are," said Scott Mair, President, Network Engineering and Operations, AT&T. "We're expanding our network with one more option to help

ensure that our business customers have the high-speed, low-latency connectivity they need to thrive as the nation recovers from COVID-19." "OneWeb's enterprise-grade network has a unique capability to serve hard-to-reach businesses and communities. Our work with AT&T will focus on how satellite technology can support improved capacity and coverage in remote, rural and challenging geographic locations," said Neil Masterson, OneWeb Chief Executive Officer. "Today's agreement with AT&T demonstrates OneWeb's execution momentum and the confidence customers such as AT&T have in its services and offering."

Batelco Expands Mobile Coverage to Major Housing Developments

Batelco has announced the expansion of its mobile network, to cover major housing developments currently being built by the Ministry of Housing and the private sector across Bahrain. The expanded services will also meet the needs of residents for fast, reliable mobile connectivity solutions, including 5G and Mobile broadband services. The Kingdom is witnessing extensive growth of new residential communities and the availability of

telecommunication services is essential to keep residents connected and enable them to enjoy a modern lifestyle. The new residential areas where Batelco is rolling out services includes Khalifa City, Salman City, Ramli Housing, Diyar Al Muharraq, East Hidd, Saddad, Wadi AlSail, Tubli, and Al-Lawzi. Commenting on the expansion of the mobile coverage, Batelco Network General Manager Rashid Mohamed, said, "Our goal is to provide fast and reliable

mobile connectivity and home broadband services to all our customers, wherever they may live. As new urban areas are developed, we continue to expand our coverage and introduce new packages and solutions that cater to customers' needs, such as Fixed Wireless Access, to ensure digital inclusivity for all citizens and residents." He added: "A key component of our strategy is to invest in the ongoing development of our mobile network. To be in line with the government's plans, we collaborate with the authorities to ensure that services are delivered to new areas to meet the specific demands of each location. As the first telecom provider to deliver nationwide 5G coverage we remain focussed on delivering the best network in Bahrain and will continue to work around the clock to enhance services that support the efforts of developers and meet customer requirements."

Batelco Phases Out 2G Network to Make Way for Transformation Towards Advanced Mobile Development

Batelco has announced that as part of its ongoing network transformation, the 2G network, which has been in service for over 27 years, will be phased out by the end of November 2021 to make way for higher technologies that offers higher speeds and better quality. Batelco has been reaching out to its 2G customers to ensure a smooth transition process, and customers who use 2G have been invited to switch to a 3G, 4G or 5G compatible device to continue benefitting from the best Batelco services. When discussing the subject, Batelco's Network General Manager, Rashid Mohamed, stated, "As telecommunication technology continues to evolve within the local industry, Batelco strives to ensure the delivery of the most up-to-date services for its customers. The capacity currently being used for 2G services will be reallocated to support the growth of 3G, 4G and 5G networks to meet the ever-growing demand for better and wider mobile data

services." "Batelco began this strategic initiative in 2019 and since then has been working closely with the 2G customer base to manage the transition by supporting them with upgrading from 2G to higher technologies. During the past two years, 3G and 4G coverage enhancements have been carried out in several areas as well as the expansion of Batelco's 5G network in support of transformation plans." "Additionally, the phase out of the 2G network will lead to a reduction in electricity consumption contributing to the environment by reducing CO2 emissions by an estimated 827 metric tons annually, which according to environmental studies is equivalent to the affect that approximately 30,000 trees would have on the environment. This supports Batelco's sustainability efforts especially in the area of energy consumption," Mr. Mohamed added. "Batelco has been investing extensively in its telecommunication

infrastructure over the years, leading to recognition by multiple organizations, both national and international, with a recent example being the prestigious Ookla Awards, when Batelco was named as the highest rated Mobile Network in Bahrain. The advancement in our networks is aimed at delivering faster mobile data speed and better call quality to enhance customer experience across the entire network. Also, the evolution of our mobile network will enable us to deliver advanced functions such as IoT and smart city technologies, in line with Bahrain's endeavors to grow as a leading ICT hub." Batelco's customer migration support includes very attractive offers on new compatible 3G and 4G devices and the vast majority of Batelco's 2G customers have already migrated to higher technologies. Customers who are still using 2G devices are requested to finalize their transition by the 30th of November 2021.

Cisco Commits to Net Zero Greenhouse Gas Emissions By 2040

Cisco announced that it is committing to reaching net zero for greenhouse gas (GHG) emissions across all scopes by 2040, 10 years ahead of when climate scientists say the planet must reach net zero to avoid the worst impacts of climate change. Cisco's net zero goal will be supported by ambitious near-term targets, including to reach net zero for all global Scope 1 and Scope 2 emissions by 2025. Other near-term targets will cover the company's most-material Scope 3 categories, such as use of sold products and supply chain emissions, and will be made public as they are finalized later in 2021. The new greenhouse gas reduction goals will follow the latest climate science, and Cisco will report progress on these targets in its annual Corporate Social Responsibility Impact Report. This announcement marks a major milestone in Cisco's journey to Power an Inclusive

Future for All. Cisco's efforts to advance this purpose will encompass investments and initiatives related to closing the digital divide, advancing social justice, building partner ecosystems of impact, and setting and achieving ambitious sustainability

goals like today's net zero commitment. "The devastating effects of the climate disasters over the past few weeks could not be a clearer sign of the urgent need to address climate change now," said Reem Asaad, Vice President, Cisco Middle
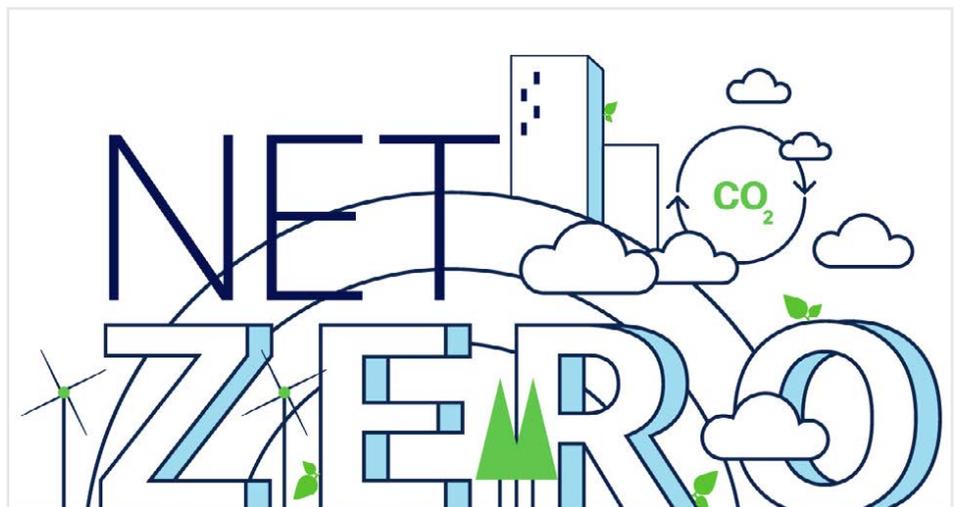
East and Africa. "As a global technology leader, we must set the standard for sustainable business practices and support our customers, partners, and suppliers in their efforts to reduce their impact on the environment as well." Cisco has been setting and achieving goals to reduce its GHG emissions at its facilities and across its supply chain since 2008. Strategies Cisco will use to reach net zero include:

• Continuing to increase the energy efficiency of our products through innovative product design
• Accelerating use of renewable energy
• Embracing hybrid work
• Investing in carbon removal solutions
• Further embedding sustainability and circular economy principles across our business

For more than 15 years, Cisco has worked toward a sustainable future by reducing emissions, reducing waste, building more efficient products, and setting and achieving ambitious goals.

• Since 2008, Cisco has set and achieved a series of five-year goals to reduce our Scope 1 and Scope 2 GHG emissions. The current goal to reduce Scope 1 and 2 emissions by 60% by FY22 (compared to FY07) is approved by the Science Based Target initiative (SBTi), and we are on track to meet it.

• Cisco has achieved 100% renewable energy in several countries around the world and is on track to reach its goal to use electricity generated from renewable sources for at least 85% of Cisco's global electricity by FY22.
• For Scope 3 emissions, in 2019, Cisco was one year ahead of schedule in reaching a goal to avoid 1 million metric tons of CO_2e in our supply chain through a range of actions -- such as utilizing more ocean shipments, redesigning product packaging, and implementing energy management at our contract manufacturing partners. We then set a new goal to reduce supply chain-related Scope 3 GHG emissions by 30 percent absolute by FY30 (compared to FY19).
• Cisco is committed to designing and managing its products and packaging for reuse, repair and resource efficiency. Cisco is on track to design 100% of new Cisco products and packaging to incorporate Circular Design Principles by 2025. Cisco also continues to deliver and improve its product service, takeback and reuse programs, supporting the 100% product return pledge made by CEO Chuck Robbins at the World Economic Forum Annual Meeting in 2018 as part of the PACE Capital Equipment Coalition.initiative (SBTi), and we are on track to meet it.

Cisco and Telstra Renew Agreement to Offer Businesses Added Visibility and Insights to Monetize IoT

Cisco and Telstra announced plans for continued collaboration with a new five-year agreement to provide advanced connectivity management for Internet of Things (IoT) services with Telstra Control Center powered by Cisco. Using Cisco's IoT Control Center SaaS solution for more than 10 years has allowed Telstra to advance its business goals and grow new revenue streams. The company currently serves thousands of customers including Australia's major financial institutions, retailers and government, offering more visibility and flexibility to better manage their businesses and turn IoT data into decisions. Cisco IoT Control Center is a market leading mobile IoT SaaS platform

serving the connected car industry. It is currently used in more than 50 service provider networks and 30,000 enterprises supporting more than 185 million connected devices. Cisco continues to work with its service provider customers like Telstra to explore 5G use cases that will drive value, including private 5G, as the platform supports both 5G standalone (SA) and non-standalone (NSA) networks. "We're proud to be an IoT global leader as we continue to scale up our IoT software and platform offerings across several industry verticals, while leveraging Australia's largest IoT network with over four million IoT devices now connected," said Mark Chapman, Group Owner of

Industry Solutions and IoT, Telstra. "Working with Cisco, our management platform helps customers automate and manage large-scale IoT deployments easily and cost-effectively. This means customers can be faster to market, lower costs, increase reliability and take actions through the platform 's insights." "Cisco and Telstra have a long history driving innovation in networking, 5G, collaboration solutions and more," said Masum Mir, Vice President, Mobility, Automation and IoT Control, Cisco. "Together we continue to empower autonomous industries and connected communities in Australia with smart infrastructure designed to support the future of connectivity with 5G."

Comviva Unveils Next Generation MobiLytixTM Marketing Studio

Comviva, the global leader in mobility solutions, announced its exciting new capabilities to help Communication Service Providers (CSPs) deliver personalized customer experience at scale and drive growth. The new launch marks an acceleration of the Telecom industry's move towards a technology-led, integrated platform play for digital engagement and customer lifetime value - which is already a key disrupter in other industries. The new solutions announcements include: Launch of its next generation MobiLytixTM Marketing Studio – integrated portfolio of marketing solutions that includes Real Time Marketing, Digital Marketing, Rewards & AI workbench (AIX) Introduction of a new MobiLytixTM Digital Marketing solution - a customer engagement automation platform for digital channels Major enhancement of the MobiLytixTM Rewards solution - a platform for delivering engaging loyalty and rewards programs for end consumers, enterprises and employees. Comviva's new MobiLytixTM Marketing Studio platform, provides Communication Service Provid-

ers (CSPs) with one-stop capabilities to execute omni-channel high-impact marketing programs for boosting revenue and customer lifetime value. With a new Digital Marketing solution, enhanced Rewards and loyalty platform, results-proven AI and Real Time Marketing products capabilities, the new Comviva platform empowers businesses to take full control of customer engagement across the entire lifecycle and deliver differentiated real-time digital experiences at scale. Speaking on the occasion, Manoranjan 'Mao' Mohapatra, Chief Executive Officer at Comviva said, "Our strategy to unleash personalized digital experience at scale is delivering immense value and growth for our customers. I am thrilled to announce the launch of our next generation MobiLytix™ Marketing Studio that delivers an AI-powered seamless digital experience to customer across channels. These are exciting times, and we are proud to be taking the lead in shaping the agenda of best-in-class customer experience in the industry." Amit Sanyal, EVP & Chief Operating Officer - Consumer Val-

ue Solutions at Comviva said, "Delivering personalized, contextual digital experience in real-time and at scale is the next big thing for marketers. We are happy to take the forward step in this direction. With MobiLytix™ Marketing Studio, we are creating new capabilities and benchmarks to maximize digital experience in real-time through technology. Each solution, used either stand-alone or in combination, shall help businesses to drive impactful business outcomes." MobiLytix™ is one of the leading marketing platforms globally that unifies customer engagement, data science and intelligent AI driven automation capabilities within a single platform to execute campaigns real-time and at scale. By engaging customers with the right message, at the right time, across any channel, organizations can improve customer experience, increase customer lifetime value, and drive revenue growth. With over 200 million deployed customer base and clients achieving incremental revenue of 8% and more, MobiLytix™ has a proven track record of customer success.

Eutelsat Rejects Drahi Takeover Bid

Satellite service provider Eutelsat rejected a takeover bid from Altice Europe founder Patrick Drahi over unfavorable conditions, putting the brakes on a recent acquisition spree on the continent by the entrepreneur. In a statement addressing media reports, Eutelsat noted it received an unsolicited non-binding offer from Drahi: a subsequent notice revealed the mooted price was €12.10 per share. However, the company's governance bodies "have unanimously decided not to engage in discussions based on the terms of this proposal". Reuters reported Drahi planned to acquire the satellite company through one of his investment companies and keep it separate from his telecom and media assets. However, the initially proposed price was reportedly dismissed as being too low. Eutelsat

operates a fleet of 36 Geosynchronous Orbit satellites covering Europe, Africa, Asia, North and South America. It recently poured $550 million in troubled satellite communications company OneWeb. Drahi commenced the run of European moves in

September 2020 when he sealed a deal to buy back Altice Europe shares, effectively making it privately owned. The company's UK unit recently became BT Group's largest shareholder through a takeover of a 12.1 per cent stake in June.

Huawei Rotating Chairman Reaffirms Continuous Innovation for Faster Digitalization Across World

Huawei's annual flagship event for the global ICT industry – HUAWEI CONNECT 2021 – kicked off . Huawei Rotating Chairman Eric Xu opened the event with a keynote speech titled "Innovating Nonstop for Faster Digitalization". This year's event, themed "Dive into Digital", explores how digital technology can better integrate with business scenarios and industry know-how to address critical business challenges, and how stakeholders can work together more effectively to foster an open industry ecosystem and drive shared success. In his keynote, Xu spoke about how helping industries go digital is a critical aspect of Huawei's mission to bring digital to every person, home and organization for a fully connected, intelligent world. He said, "Digital development relies on digital technology. For digital technology to stay relevant, we must continue to innovate and create value. Cloud, AI, and networks are three critical digital technologies." At the event, Xu launched the industry's first distributed, cloud-native service called UCS – a ubiquitous cloud-native service available on HUAWEI CLOUD. With UCS, Huawei plans to provide enterprises with a consistent experience while using cloud-native applications that are not constrained by geographical, cross-cloud, or traffic limitations, thereby accelerating digital transformation in all industries. HUAWEI CLOUD also announced two new regions, and ten new services including MacroVerse aPaaS, OptVerse AI Solver, HUAWEI CLOUD Stack 8.1, Pangu drug molecule model, and SparkRTC. It was also revealed that the first virtual human, Yunsheng, is set to join HUAWEI CLOUD. Xu added that HUAWEI CLOUD, the company's cloud service that was launched just four years ago, has already brought together more than 2.3 million developers, 14,000 consulting partners, and 6,000 technology partners, and also made more than 4,500 services available in the HUAWEI CLOUD Marketplace. It has become an important platform for Internet companies, enterprises, and governments
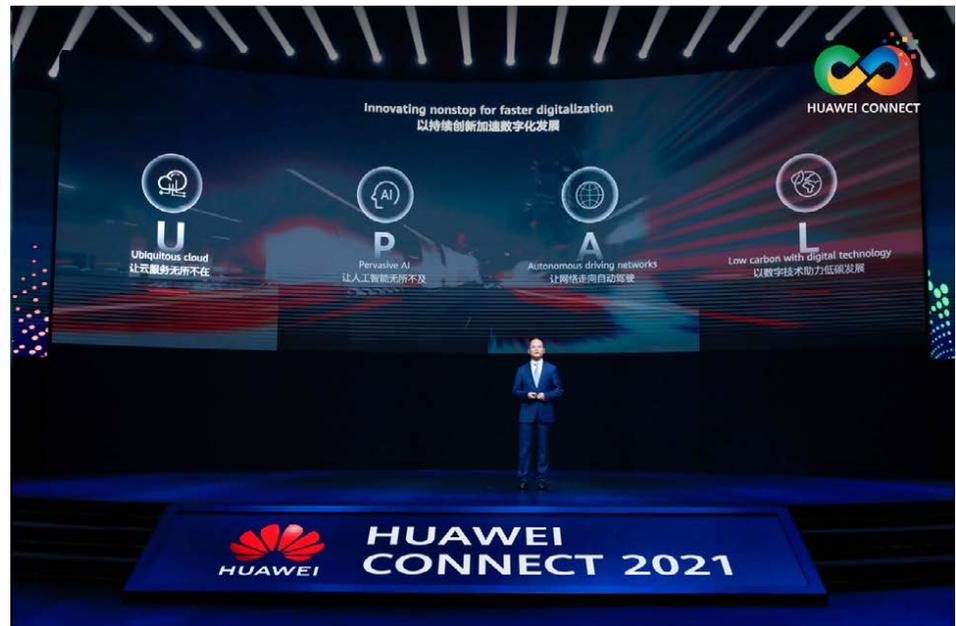
alike to take their organizations digital. As of September 2021, HUAWEI CLOUD and partners operate 61 Availability Zones (AZs) in 27 geographic regions worldwide, covering more than 170 countries and regions. Zhang Ping'an, CEO of HUAWEI CLOUD and President of Huawei Consumer Cloud Service, commented: "The key to successful digital transformation is to think cloud native and act cloud native. HUAWEI CLOUD joins our customers and partners to dive into digital and explore the potential of Everything as a Service – Infrastructure as a Service for global accessibility, Technology as a Service for flexible innovation, and Expertise as a Service for shared excellence." Huawei's full-stack, all-scenario AI portfolio released back in 2018 is also progressing as expected. Its MindSpore framework has become the mainstream AI computing framework in China. Meanwhile, the Atlas 900 cluster, as well as the cloud services based on it, currently serve more than 300 enterprises, supporting the training of many models, which include the HUAWEI CLOUD Pangu large models. HUAWEI CLOUD ModelArts has made AI application development incredibly simple with its full-pipeline, scenario-based services.

The end goal of ModelArts is to enable each and every engineer to independently develop their own AI applications. Xu also introduced Huawei's innovations in the network domain. As organizations go digital, they tend to see exponential growth in network complexity. To tackle this, Huawei has been innovating solutions for global networks based on the concept of autonomous driving network (ADN). The company has been working with customers in the finance, education, and healthcare sectors to innovate and deploy new applications, and build networks that are self-fulfilling, self-healing, self-optimizing, and autonomous. Xu went on to explain how Huawei is using digital technology to support low-carbon development, as part of global efforts to achieve peak CO_2 emissions and carbon neutrality. Huawei hosts HUAWEI CONNECT 2021 online from September 23 to October 31. The theme of this year's event is Dive into Digital. The company will dive deep into the practical application of technologies like cloud, AI, and 5G in all industries, and how it can make organizations of all shapes and sizes more efficient, more versatile, and ultimately more resilient as we move towards economic recovery.

The CRA Qatar and Huawei Conclude 'Seeds for the Future' Program 2021 to Develop Elite ICT Talents in Qatar

In collaboration with the Communications Regulatory Authority, Huawei, a leading global provider of information and communications technology (ICT) infrastructure and smart devices, has concluded the 5th edition of its annual knowledge-exchange program 'Seeds for the Future' in Qatar. A total of 34 students from Qatar University, Hamad Bin Khalifa University, and Community College of Qatar have successfully completed the program this year. During the eight-day online program, participants were involved in various technology, leadership, and cultural exchange courses. Those in attendance at the closing ceremony included Mr. Yang Song, Economic and Commercial Counsellor at the Embassy of the People's Republic of China in the State of Qatar, Mr. Mohammed Al Suwaidi,

Third Secretary at the Qatar Embassy in China, and Mr. SpaceLee, Vice President of Huawei Middle East. His Excellency Mr. Yang Song, Economic and Commercial Counsellor at Embassy of the People's Republic of China in the State of Qatar, commented: "China and Qatar are strategic partners and bilateral relations are maintaining strong momentum of development. This year, students in Qatar participated in the newly launched "Tech4Good" project. Students came up with proposals on how to leverage technology to address the region's most pressing social and environmental issues. It also encouraged students to increase their social entrepreneurship, problem-solving, and leadership skills through teamwork with other students from many different countries. Mr. Space

Li, Vice President of Huawei Middle East, commented: "The future of any nation lies in education. In the digitalized world, ICT education is key for social development. As a leader of the ICT industry, Huawei is honored to uphold its social responsibilities to help Qatar prepare a robust talent ecosystem for the completion of Qatar National Vision 2030. In the next three years, we plan to nurture 10,000 ICT talents for Qatar." Even with the difficulties caused by the pandemic, Huawei has worked hard to provide as many opportunities as possible to students in an increasingly digitalized world, with this being the second year of the program being organized online. First started in 2008 globally, Seeds for the Future is Huawei's flagship Corporate Social Responsibility (CSR) program that has been operated in over 130 countries covering more than 500 universities. Over 9,000 students have received ICT and cultural trainings while studying cutting-edge technology such as Fifth Generation (5G) technology, cloud computing, Artificial Intelligence (AI), and the Internet of Things (IoT). Participants have also had the opportunity to explore Huawei's exhibition halls and global campuses through virtual tours, while gathering real-world experience through hands-on workshops in collaboration with institutions of higher education and partners from the public sector and Huawei conclude 'Seeds for the future' program 2021 to develop elite ICT talents in Qatar

Huawei to Invest US$15 Million in Middle East HUAWEI CLOUD Oasis Program

Huawei, a leading global provider of information and communications technology (ICT) infrastructure and smart devices, plans to invest US$15 million over the next three years in a newly unveiled HUAWEI CLOUD Oasis Program aimed at accelerating the development of technology enterprises and ecosystems in the Middle East. The HUAWEI CLOUD Oasis Program was launched during the second edition of the HUAWEI CLOUD Summit held virtually this year on September

15, 2021. The annual event connects business leaders, industry visionaries, and Huawei partners to build a more dynamic ecosystem for collaboration and shared success. Countries across the region have witnessed an acceleration in cloud adoption and investment in recent years. Leveraging Huawei's 30-plus years of expertise in ICT solutions, HUAWEI CLOUD is now a leading cloud service provider globally that provides reliable, secure, and cost-effective services to empower

organizations of all sizes to grow in an increasingly digital world. The HUAWEI CLOUD Oasis Program has set a target to assist 3,000 experts in the region, support over 1,500 consulting and technical partners, and empower more than 100 SMEs to develop their cloud capabilities. The program will also support more than 100 marketing events during this period to help cultivate a thriving cloud ecosystem within the business community. The latest investment includes USD7.5 million being

allocated for partner development, over USD2.5 million to be put behind credits and other cloud resources, and more than USD4.5 million in marketing support for program projects. Eric Wan, VP of Cloud Marketing, Ecosystem & Partner Development at Huawei Middle East, said: "Since launching HUAWEI CLOUD, we have sought to nurture a localized, innovative cloud ecosystem in all the markets where we operate. The HUAWEI CLOUD Oasis Program will thus provide truly unique and rewarding offerings to local businesses, while safeguarding the region's digital future through extensive training opportunities in the cloud arena. By empowering more partners to succeed, together we can cultivate an even stronger technology ecosystem in the Middle East." Within the program, the HUAWEI CLOUD Partner Network (HCPN)

has designed three different programs for consulting partners, technology partners, and talent. Participants benefit from various incentives and privileges to maximize their cloud projects, while also being provided with marketing, sales, and branding support to enhance business development. Technology partners are offered training, marketing, technical, and business support so that they can focus on technology innovations within their field. As part of its talent development goals, HUAWEI CLOUD will host various tech summits and introduce cloud training to more than 1,000 students, provide more than 130 courses for prospective learners, and host skill contests accessible to more than 400 students and ten universities in the region. Over the coming years, a new Cloud Synergy project will provide benefits for both HUAWEI CLOUD and Huawei Mobile

Service (HMS) users. Cloud Synergy will facilitate HUAWEI CLOUD partners' access to the more than 1 billion Huawei devices users. On the other hand, HMS users could also get free trials or vouchers for HUAWEI CLOUD services. A HUAWEI CLOUD Spark program designed for startups will also provide access to financial and technical support, mentoring, and go-to-market encouragement. The purpose of this program is to help startups focus on business development and without worrying about the financial and marketing difficulty. Currently, HUAWEI CLOUD has more than 220 services available, with 18 global and one local data center providing these services. In less than a year, HUAWEI CLOUD had more than 80 offerings in the marketplace. More than 100 partners have already joined hands with HUAWEI CLOUD.

Huawei Releases the Intelligent World 2030 Report to Explore Trends in the Next Decade

Huawei, along with industry partners, held the Intelligent World 2030 Forum. David Wang, Executive Director and President of ICT Products & Solutions of Huawei, released the Intelligent World 2030 report with a keynote speech on Exploring the Intelligent World 2030. This is the first time that Huawei has used quantitative and qualitative methods to systematically describe the intelligent world in the next decade and forecast industry trends, helping industries identify new opportunities and discover new value. Over the past three years, Huawei has conducted in-depth exchanges with more than 1,000 academics, customers, and partners in the industry, organized more than 2,000 workshops, and drawn on data and methods from authoritative organizations, such as the United Nations, World Economic Forum, and World Health Organization. Huawei has derived insights from scientific journals such as Nature and IEEE, and drawn wisdom from relevant industry associations and consulting firms, as well as experts within and outside Huawei. Through these efforts, Huawei has developed the Intelligent World 2030 report, providing insights into ICT technology and application trends in the next decade. The report

proposes eight cross-disciplinary and cross-domain directions for exploration at the macro level. It explains how ICT technologies can solve critical problems and challenges of human development, and what new opportunities can be brought to organizations and individuals. At the industry level, the report explores the future technologies and development directions of communications networks, computing, digital power, and intelligent automotive solutions. Wang said, "30 years ago, we decided to enrich life through communications. 10 years ago, we decided to connect every corner of the world, to build a better, connected world. Now, our

vision and mission is to bring digital to every person, home, and organization for a fully connected, intelligent world. We firmly believe that a brilliant intelligent world is arriving at an accelerated pace." Many heavyweight guests were invited to speak at the forum, including renowned futurist Steven Johnson, founding and rotating chairman of the World Electric Vehicle Association Chen Qingquan, Co-President of Roland Berg Global Management Committee Denis Depoux, and Vice President of the China Academy of Information and Communications Technology (CAICT) Wang Zhiqin. They shared their insights on the intelligent

world and discussed how ICT can better drive socio-economic development. As the prominent futurist and science author Steven Johnson said, we are entering an era of exponential growth. The coming decades will be characterized by a golden age of collaboration between human and machine intelligence, and algorithms will enhance human intelligence. As technology grows exponentially, all of society will benefit. The Intelligent World 2030 Forum is the first time that Huawei has systematically shared cutting-edge research and insights into the next decade. This sharing of knowledge will bring great value to social development, especially for global digital transformation and digital economy. Imagination will determine how far we will go in the future, action will determine how quickly we will reach the future, and the best way to predict the future is to create it. There are still plenty of challenges to overcome on the road to the intelligent world. As David Wang said at the end of his speech, "We believe, the greatest wisdom is found in shared ideas. Dreams are the key driver of social progress. Moving towards the next decade, let's work together to shape a better, intelligent world."

Customers and MNOs in 5G Harmony in Kuwait

SpeedChecker, the mobile crowdsourcing company released a new report (July 2021) on the performance of mobile networks in Kuwait. This report is part of an ongoing commitment from SpeedChecker to benchmark true user experience. The SpeedChecker report has been compiled using data from 50,338 unique mobile devices performing 75,968 tests in 2 weeks in June 2021. 5G availability plays a leading role in the Kuwait Vision 2035 and all three major MNOs offer excellent service in Kuwait. Mobile customers have embraced this by upgrading to 5G enabled phones in ever-increasing numbers. This 'harmony' between 5G availability and 5G usage explains how Kuwait download speeds have increased by up to 70% in 6 months since our last report. Customers upgrading to 5G phones should see speeds more than triple.

Tech Mahindra Achieves AWS Level 1 Managed Security Service Provider (MSSP) Competency Status Covering All Six Cybersecurity Cloud Domains

Tech Mahindra Ltd., a provider of digital transformation, consulting and business reengineering services and solutions, announced that it has been recognized and certified as Amazon Web Services (AWS) Level 1 Managed Security Service Provider (MSSP) Competency status. This designation recognizes that Tech Mahindra has successfully met all AWS's requirements for a baseline of managed security services to protect and monitor essential AWS resources 24/7, known as Level 1 Managed Security Services. This new baseline standard of quality for managed security services was introduced by AWS to benefit cloud environments of any size and it spans six key cybersecurity domains:
1. Vulnerability Management,
2. Cloud Security Best Practices and Compliance,
3. Threat Detection and Response,
4. Network Security,
5. Host And Endpoint Security, and
6. Application Security.

The six domains contain multiple MSSP services, each with technical skillset and operational process requirements specific to AWS. The recognition acknowledges Tech Mahindra's Managing Security Service (MSS) expertise, offering next-generation cybersecurity services, best practices and compliance, as part of its cloud adoption journey. Rajesh Chandiramani, Senior Vice President and Global Business Head - ESRM, AI & Data Analytics and Cloud, Tech Mahindra, said, "Tech Mahindra is proud to be one of the first AWS Partners to achieve AWS Level 1 MSSP Competency status. Tech Mahindra is committed to providing world-class security, delivering trusted and mission-critical services to

customers globally. This is in line with our TechM NXT.NOW framework, to bring global scale with cybersecurity experts along with its MSSP services. We at Tech Mahindra, are dedicated to help customers achieve their business transformation goals by leveraging the agility, breadth of services, and pace of innovation." AWS launched the AWS Level 1 MSSP Competency to enable customers to easily acquire ongoing security monitoring and management, validated by AWS. The security experts annually validate the tools used and operational processes of each MSSP address specific cloud security challenges such as continuous event monitoring, triaging, AWS service configuration best practices, and 24/7 incident response. The AWS Level 1 MSSP Competency provides a faster and easier experience for customers to select the right MSSP to help them achieve their goals for business risk and cloud strategy confidence. Achieving the AWS Level 1 MSSP Competency differentiates Tech Mahindra as an MSSP and AWS Partner offering customers globally with essential 24/7 managed cloud security skillsets. "Security and compliance are essential for customers moving to the cloud," said Ryan Orsi, Global Security/MSSP Practice Team Lead, AWS. "Tech Mahindra's demonstrated experience

in managed services give customers confidence in maintaining a high security bar and responding to potential risks quickly." AWS is enabling scalable, flexible, and cost-effective solutions from startups to global enterprises. To support the seamless integration and deployment of these solutions, established the AWS Competency Program to help customers identify AWS Partners with deep industry experience and expertise. Tech Mahindra's Enterprise Security & Risk Management Services team, with 17+ years of Cyber Security experience, act as a trusted advisor – consultant, system integrator and managed security service provider. We help customers to secure their digital

transformation journey by, addressing all their cloud security needs by protecting their cloud environment, providing unified visibility, and ensuring compliance. Tech Mahindra provides AWS Security Offerings to protect EC2 and EKS instances which include Vulnerability Management, Threat Detection and Response, Host and Endpoint Security, Cloud Security Best Practices and Compliance, Network Security, and Managed WAF. As part of TechM NXT.NOW framework, which aims to enhance 'Human Centric Experience', Tech Mahindra focuses on investing in emerging technologies and solutions that enable digital transformation and meet the evolving needs of the customer.

Yahsat Selects SpaceX to Launch Its Next-Generation Thuraya 4-NGS Satellite

Al Yah Satellite Communications Company PJSC "Yahsat" listed on the Abu Dhabi Securities Exchange ("ADX") under (SYMBOL: YAHSAT) (ISIN: AEA007501017), the UAE's flagship satellite solutions provider, announced that it has selected SpaceX's Falcon 9 to launch Thuraya 4-NGS, the Group's advanced satellite, which employs the latest satellite communications technologies, to expand Thuraya's coverage across Europe, the Middle East, Central Asia and Africa. SpaceX's Falcon 9 was selected primarily due to its high reliability and advanced capabilities, underscoring Yahsat's continued

commitment to maximizing quality and performance across its businesses. SpaceX is a leader in the manufacture and launch of space technology and is consistently recognized for its ground-breaking innovation and relentless focus on simplicity and effectiveness. To date, SpaceX has successfully completed 128 launches. Thuraya 4-NGS is expected to spur Yahsat's growth across new and existing product lines, with the new technology enabling the Group to maintain its leading position as the global leader in the satellite communications industry by delivering higher capabilities and flexibility while increasing capacity and coverage

across Europe, Africa, Central Asia and the Middle East, enabling next-generation connectivity solutions for all customer segments, including defence, government and enterprise. Yahsat plans to launch Thuraya 4-NGS in the second half of 2023, with operations scheduled to commence in 2024. Ali Al Hashemi, Group Chief Executive Officer at Yahsat, said: "We are delighted to be launching Thuraya 4-NGS with SpaceX. With their capability and capacity for multi-launch sites, we are confident that they are the right provider for us. The agreement marks a significant milestone for Yahsat as we continue to develop our technology-enabled infrastructure to prepare for the

next stage of our growth." He added: "The UAE has established its position as a competitive player in the space industry by collaborating with global leaders such as SpaceX. At Yahsat, we will continue forging partnerships with the world's most innovative companies to enhance our competitiveness, deliver on our ambitious growth and expansion plans, and continue to create value for our customers, shareholders and the UAE." "For launch of its advanced technology, Yahsat sought a reliable and high-performance ride to orbit. We're proud it has selected Falcon 9, one of the world's most frequently flown launch vehicles, and we look forward to a successful mission," said SpaceX Vice President of Commercial Sales Tom Ochinero. With operations in more than 150 countries spanning 5 continents, Yahsat is the preferred partner for reliable integrated satellite communication solutions and an industry center of excellence for both government and commercial customers. The Company was established in the UAE in 2007 to meet the growing demand for satcom services by providing a secure and reliable means of global connectivity, regardless of geographic constraints. Thuraya, a subsidiary of Yahsat, operates the Thuraya satellite fleet and has a successful track record of over 20 years in providing innovative services in the global satellite communications sector.

Zain to Sell Majority of Saudi Arabia Towers Unit

Zain Saudi Arabia accepted offers from the country's sovereign wealth fund and two other investors to sell stakes totaling 80 per cent of its towers infrastructure valued at $807 million. In a filing with the Saudi Stock Exchange, the operator stated its board approved non-binding offers which will result in the Public Investment Fund (PIF) acquiring a 60 per cent stake in its towers unit. Prince Saud Bin Fahad and Sultan Holding Company will each take 10 per cent stakes. Combined, the three investors will take over 8,069 towers. Zain will keep ownership of the remaining 20 per cent of the tower unit, including wireless communication antennas, software, technology and IP. The company explained it will work with the investors "on the best way to execute the offer", adding the deal is not yet finalized as it awaits approvals from relevant authorities. Bloomberg reported PIF's bid amounted to $484 million. Media reports in June claimed Saudi Arabia's sovereign fund was looking to sell some of its majority stake in Saudi Telecom Company as it aimed to invest in new assets.

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What will Telco Look Like in 2030?

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strategy&

The role of telecom operators in the Middle East looks set to undergo a fundamental change. Providing excellent connectivity and data speed will no longer be their primary focus. Operators are now ideally positioned to make substantial gains by enabling the digital transformation of the public and private sector. To reorient their business successfully, however, they will need to bolster their capabilities through acquisitions, partnerships and investment, and overcome various challenges.

> *By offering enhanced connectivity and ever-increasing data speeds over the last decade, telecom operators have facilitated a technological explosion, with a huge impact on businesses and consumers alike.*

By offering enhanced connectivity and ever-increasing data speeds over the last decade, telecom operators have facilitated a technological explosion, with a huge impact on businesses and consumers alike.

During the next decade, operators in the Middle East will need to play a similarly vital role, this time in enabling public and private sector digital transformation. The relevant services they can provide include new enhancements of cloud and new-age technologies, such as blockchain and artificial intelligence (AI). The potential rewards are substantial, promising the sustainable growth that operators crave as the market for their traditional activities becomes saturated. According to IDC, the regional public sector cloud market alone is expected to grow to US$ 2.35 billion by 2024, more than double its current size.

Operators in the region have several natural advantages which equip them well for this transition:

First, they already have a large customer base resulting from high mobile penetration. For example, the United Arab Emirates is ranked number two globally for its proportion of mobile subscribers.

Second, they have the available cash to make the necessary investments. Operators in the Middle East have always been able to generate a high level of free cash flow by global standards, and the COVID-19 pandemic is unlikely to alter this reality significantly.

Third, most regional operators are heavily supported by the state. For example, the Emirates Investment Authority has a 60% stake in Etisalat, and the Public Investment Fund in Saudi Arabia owns 70% of stc. Moreover, regional regulatory authorities have implemented timely reforms which provide an impetus for digital transformation.

However, in order to reposition themselves as enablers of digital transformation, operators will need to augment their existing capabilities through inorganic activity. Regional operators have been active in mergers and acquisitions despite the pandemic. For example, Etisalat completed its acquisition of German cybersecurity firm Help AG in 2020, while Ooredoo and Hong Kong conglomerate CK Hutchison Holdings are exploring a deal to merge their Indonesian wireless phone businesses.

Operators should not restrict themselves to mergers and acquisitions however.

Another route to inorganic growth is corporate venturing. Operators can consider making strategic investments in the growing number of technology start-ups in the region and throughout the world. In March 2020, Riyadh-based online grocery app Nana raised US$ 18 million in an investment round co-led by Saudi Technology Ventures (STV), which is backed by stc, and Middle East Partner Ventures (MEVP).

Joint ventures are another option. Telecom operators in the Middle East can co-invest in emerging technologies, or combine forces to establish regional infrastructure platforms. In 2019, UAE's du and Bahrain's Batelco entered a joint venture named Arc, in order to set up a technology platform capable of providing connectivity and data center services throughout the region.

Partnerships and alliances can be equally important in developing operators' strategy and laying the platform for future success. One such example is the recent multi-year partnership between Etisalat and Microsoft. The tech giant will help Etisalat to develop a public cloud-first strategy, which will involve building a digital platform equipped with automation and AI capabilities. Another recent strategic partnership, this time between Conviva and Ooredoo Kuwait, will use machine learning to improve customer retention and maximize individual customer value.

As well as needing to improve capabilities, telecom operators in the Middle East will face other challenges as they seek to become enablers of digital transformation. Given the scale of current downturn evident in other sectors, and the healthy history of returns recorded by regional operators, shareholders will surely push for further

Operators should not restrict themselves to mergers and acquisitions however. Another route to inorganic growth is corporate venturing. Operators can consider making strategic investments in the growing number of technology start-ups in the region and throughout the world.

short-term gains, possibly mitigating against the scale of long-term investment required for strategic change.

Such change requires continuity at the top. The constant turnover in leadership positions witnessed at regional operators therefore represents another obstacle which needs to be addressed. The right talent must be brought in, not just by means of inorganic growth, but also through recruiting expertise from companies that specialize in emerging digital focus areas. Operators will certainly need to undergo a cultural shift and become more comfortable with risk. They should have the courage to appoint specialist leaders from outside their ranks to run these new companies, and eliminate the prevailing fear of failure within their organizations.

If telecom operators in the Middle East confront these challenges in a robust way, then they are likely to look very different in 2030. The major rewards promised by this change lie within their grasp.

About the author:
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REGIONAL NEWS

UAE Ranked in Top 10 in World Digital Competitiveness Ranking 2021

The UAE has achieved a major international milestone by being ranked in tenth place in the World Digital Competitiveness Ranking 2021 issued by the IMD World Competitiveness Center (WCC) of the International Institute for Management Development (IMD) in Lausanne, Switzerland. According to the 2021 ranking the UAE has lead the middle East and North African and outperformed some major economies, such as Finland, Canada, the United Kingdom, Australia, China, Germany, France, Japan and Belgium. The UAE (18th in 2017, 10th in 2021) shows strong advancements as its digital competitiveness has been boosted by increasing investments in digital technologies in the private sector as well as the development of e-government services. Now in its fifth year, the IMD World Digital Competitiveness Ranking measures the capacity and readiness of 64 economies to adopt and explore digital technologies as a key driver for economic transformation in business, government and wider society. Based on a mixture of hard data and survey replies from business and government executives, the digital rankings help governments and companies to understand where to focus their resources and what might be

best practices when embarking on digital transformation. Speaking about this major achievement, Mohammad bin Abdullah Al Gergawi, Minister of Cabinet Affairs and President of the Emirates Competitiveness Council, said that the UAE's top ten rating in the World Digital Competitiveness Ranking 2021 is a new achievement, which is part of its efforts to enhance its prominent stature as one of the world's best countries. "The UAE has proven its ability to overcome challenges and turn them into inspiring opportunities, due to the visions of President His Highness Sheikh Khalifa bin Zayed Al Nahyan, and His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President, Prime Minister and Ruler of Dubai, and His Highness Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces," he added. "This achievement is to be added to the country's record in global competitiveness and highlights its ability to keep pace with its significant new government work approach. It also highlights the government's future aspirations and its strategic goal to achieve overall progress," he further added. The IMD World Digital Competitiveness Ranking presents the 2021 overall rankings for the

64 economies covered by the WCY. The rankings are calculated on the basis of the 52 ranked criteria: 32 Hard and 20 Survey data. Based on research, the methodology of the WDC ranking defines digital competitiveness into three main factors: Knowledge Technology Future readiness In turn, each of these factors is divided into 3 sub-factors which highlight every facet of the areas analyzed. Altogether, the WDC features 9 such sub-factors. In this year's report, the UAE topped MENA countries, ranking first in all key categories, as well as fifth globally in "Technology," 12th in "Readiness for the Future," and jumping 13 places to 18th in "Knowledge." In the report's nine sub-factors, the UAE was ranked first globally in "Talent," advancing four places compared to last year's report, as well as second globally in "Regulatory framework," fifth globally in "Technological framework," 25th globally in "Education and training," and 10th globally in "Business agility" and "IT integration." The UAE was ranked first globally in four indexes, which are "Cybersecurity", "Net flow of international students," "Immigration laws" and "mobile broadband subscribers." The country was ranked second globally in "Foreign highly-skilled personnel," "International experience" and "Attitudes toward globalization," and third globally in "Management of cities," "Companies' use of big data and analytics," and "Opportunities and threats." The UAE advanced significantly in several indexes in the report, jumping 31 places in both "internet users" taking the 4th globally, and "Higher education achievement", comin16th globally. The country also jumped 22 positions in the "Mobile broadband Subscribers" index, ranking 12th globally, as well as nine positions in the "Women with degrees" index, reaching tenth place globally.

Gulf Spend on Digital Infrastructure to Hit US$70 Billion By 2024

The Gulf region's ICT spending in digital infrastructure is expected to be over US$70billion by 2024, said experts at a global forum, citing a recent report by the Middle East Institute. Spending in Saudi Arabia was expected to exceed $37 billion in 2020. Meanwhile, the UAE's ICT spending is estimated to reach $23 billion by 2024, while Qatar's spending will amount to approximately $9 billion. The World Economic Forum EDISON Alliance discussion on Boosting Digital Inclusion featured Crescent Enterprises CEO Badr Jafar alongside Hans Vestberg, Chairman and CEO of Verizon and Chairman of the EDISION Alliance, Ruth Porat, Senior Vice-President and CFO of Google, and Dr Precious Moloi-Motsepe, Co-Founder and CEO of the Motsepe Foundation. The discussion, moderated by Quartz Media Editor-in-Chief Katherine Bell, was hosted by the EDISON Alliance, a global movement of private and public sector Champions committed to prioritizing digital inclusion for the achievement of the United Nations Sustainable Development Goals. The discussion was held against the backdrop of the EDISON Alliance 1 Billion Lives Challenge, a challenge to improve 1 billion lives globally by 2025 through affordable and accessible digital solutions. With an estimated 47% of people worldwide offline, and the cost of available broadband exceeding affordability targets in 50% of developed countries, Badr Jafar, an appointed Champion of the Edison Alliance, stressed that digital inclusion is a means to an end. "Addressing the global challenges that humanity and our habitat faces is of course the ultimate goal. Technology is a means to that end, and it isn't the agent of change, either. We, the connected people, are the true agents of change. And history will judge us on whether we really used these tools for the collective betterment of humanity and our planet," Jafar said. On innovative investment models needed for digital inclusion, Jafar highlighted that the business case for connecting the unconnected is inarguable, with an estimated 70% of new value created in the economy over the next decade to be based on digitally enabled platforms. Jafar said: "Today, with trillions of dollars of capital chasing yield in a zero interest rate environment, long-term stable tariff-based investment opportunities, like digital infrastructure, is super compelling. The questions we must address is how can we ensure regulatory and investment frameworks are clear, transparent, and compelling enough to accelerate this investment?" Badr Jafar also emphasized the need to also address the digital divide through a business lens, considering the significant and widening digital gap between small and medium-sized enterprises (SMEs) and larger businesses. As an EDISON Alliance partner, Crescent Enterprises aims to focus efforts on scaling up the digital capacities of SMEs in the Mena region, in which SMEs account for over 90% of all businesses and are a major source of much-needed job creation and economic growth. The EDISON Alliance Boosting Digital Inclusion panel was held as a part of the World Economic Forum's virtual Sustainable Development Impact Summit 2021. The Summit, hosted in parallel with the United Nations General Assembly, convenes global leaders across sectors, disciplines, and geographies to exchange knowledge, innovative approaches, and promising ideas to accelerate post-pandemic recovery on the road to achieving the United Nations Sustainable Development Goals.

Saudi Arabia Ranks 2nd in Digital Competitiveness Among G20 Countries

Saudi Arabia has been ranked second among G20 countries in the Digital Competitiveness Report 2021 issued by the European Center for Digital Competitiveness, the Saudi Press Agency reported. The report is based on data issued by the World Economic Forum and backed by statistics issued by the World Bank and the International Telecommunication Union. In a bid to further improve digital performance, the Kingdom's Digital Government Authority has called on all government agencies to register their online platforms and websites through the authority's website within 90 days, a DGA statement said. On June 30, DGA approved the first regulatory framework of the digital government. DGA is seeking to issue regulations, policies, and standards that contribute to creating a regulatory environment, which enables reaching advanced levels of maturity in the government's digital transformation. It has instructed all government agencies to reinvigorate their platforms to better serve the public and improve their digital presence. The authority has also ordered the suspension of a total of 106 inactive domains. A deadline has also been set for government agencies to comply with the authority's instructions. The objective of the move is to regulate government domains on the internet, preserve the rights of registered entities and link them to official platforms and websites. DGA Gov. Ahmed bin Mohammed Al-Suwayan said the authority seeks to improve the regulatory and investment environment in the Kingdom and ensure reliable and efficient digital services. He said the authority will assess all existing platforms, apps, and websites according to the regulatory framework.

UAE's ICT Spending Estimated to Reach US$23 Billion by 2024

Cescent Enterprises CEO Badr Jafar, has underlined the importance of addressing global challenges by adopting innovative investment models conducive to ensuring digital inclusion. He made the remarks as he participated in the World Economic Forum EDISON Alliance discussion on boosting digital inclusion alongside Hans Vestberg, Chairman and CEO of Verizon and Chairman of the EDISION Alliance, Ruth Porat, Senior Vice-President and CFO of Google, and Dr. Precious Moloi-Motsepe, Co-Founder and CEO of the Motsepe Foundation. The discussion, moderated by Quartz Media Editor-in-Chief Katherine Bell, was hosted by the EDISON Alliance, a global movement of private and public sector Champions committed to prioritizing digital inclusion for the achievement of the United Nations Sustainable Development Goals. The discussion was held against the backdrop of the EDISON Alliance 1 Billion Lives Challenge, a challenge to improve 1 billion lives globally by 2025 through affordable and accessible digital solutions. With an estimated 47% of people worldwide offline, and the cost of available broadband exceeding affordability targets in 50% of developed countries, Badr Jafar, an appointed Champion of the Edison Alliance, stressed that digital inclusion is a means to an end, "Addressing the global challenges that humanity and our habitat faces is of course the ultimate goal. Technology is a means to that end, and it isn't the agent of change, either. We, the connected people, are the true agents of change. And history will judge

us on whether we really used these tools for the collective betterment of humanity and our planet." According to a recent report by the Middle East Institute, information and communications technology (ICT), the UAE's ICT spending is estimated to reach $23 billion by 2024. On innovative investment models needed for digital inclusion, Jafar highlighted that the business case for connecting the unconnected is inarguable, with an estimated 70% of new value created in the economy over the next decade to be based on digitally enabled platforms. Jafar underlined, "Today, with trillions of dollars of capital chasing yield in a zero interest rate environment, long-term stable tariff-based investment opportunities, like digital infrastructure, is super compelling. The questions we must address is how can we ensure regulatory and investment frameworks are clear, transparent, and compelling enough to accelerate this investment?" Jafar also emphasized the need to also address the

digital divide through a business lens, considering the significant and widening digital gap between small and medium-sized enterprises (SMEs) and larger businesses. As an EDISON Alliance partner, Crescent Enterprises, aims to focus efforts on scaling up the digital capacities of SMEs in the Middle East and North Africa region, in which SMEs account for over 90% of all businesses and are a major source of much-needed job creation and economic growth. The EDISON Alliance Boosting Digital Inclusion panel was held as a part of the World Economic Forum's virtual Sustainable Development Impact Summit 2021. The Summit, hosted in parallel with the United Nations General Assembly, convenes global leaders across sectors, disciplines, and geographies to exchange knowledge, innovative approaches, and promising ideas to accelerate post-pandemic recovery on the road to achieving the United Nations Sustainable Development Goals.

MTN Looking for Buyers for Afghan Business, Reports Say

Johannesburg-based emerging markets mobile carrier MTN Group is reportedly in talks with potential buyers for its MTN Afghanistan wireless unit as it accelerates plans to exit the country in the wake of the recent takeover by the Taliban. Bloomberg cites unnamed people with knowledge of the matter as saying that MTN is in talks with several interested parties, although the negotiations reportedly do not include any Chinese buyers. A write-down of MTN's Afghanistan operation without any proceeds from a disposal would cost

about USD49 million, they said. The news agency notes that in unveiling its new government this week, the Taliban stated that investments from China will be key to helping rebuild an economy devastated by decades of war. According to TeleGeography's GlobalComms Database, in August 2020 the South African carrier announced its intention to make a strategic exit from the Middle East region to focus on the African market. In announcing its interim financial results for 1H20, it said: 'As part of our ongoing portfolio review, we

believe the group is best served to focus in the future on our pan-African strategy. We will therefore be exiting the Middle East in an orderly manner over the medium term. As a first step we are in advanced discussions to sell our 75% stake in MTN Syria to TeleInvest, which is the minority shareholder in MTN Syria with a 25% holding.' MTN Afghanistan is the country's leading mobile provider by subscribers with around 2.35 million users and a 27.6% market share.

Pakistan IT Exports Surged By 46% in July-August 2021

Pakistan's ICT exports have witnessed a 46% increase to $420 million in the July-August 2021 period. Overall, technology exports in August of this year represent an 80.6% increase over the same period last year. During the fiscal year 2020-21, Pakistan's IT exports increased 47.4 per cent and crossed the $2 billion mark for the first time in the country's history. On the other hand, in the fiscal year 2019-20, the exports were $1.44 billion. The impressive growth in IT exports has been observed in the aftermath of the COVID-19 pandemic, which grew the demand for automation and IT services all over the world. Naturally, this has meant that Pakistan's IT companies have had their hands full trying to fulfill orders from various export markets. Moreover, the jump in exports can also be attributed to a rise in freelancing activity in Pakistan. According to the International Labour Organization Flagship Report 2021, Pakistan has been ranked as the second-largest supplier of online labour in software development and technology. Federal Minister for IT and Telecommunication Syed Amin Ul Haque inaugurated a portal for online registration of freelancers at Pakistan Software Export Board (PSEB) earlier this month in a move that further highlights the emphasis on freelancing activity in the country. Last month, the government also announced the establishment of a Rs10 billion fund for providing cash rewards to IT companies against their exports. The government is also set to offer a five per cent rebate on these exports. Moreover, the government is working to introduce Special Technology Zones (STZs) all over the country to further boost the IT industry. Experts suggest that if a package for IT and telecom gets implemented, the exports could jump to $4 billion.

Mobile Internet Speed Increases By 15% in Bangladesh

In the last one year, the speed of mobile internet in Bangladesh has increased by 15.38 %. However, at the same time, the average speed of global mobile internet has increased by 59.5 % according to Ookla speed testing parameters. As such, the growth rate of mobile internet in Bangladesh is about one-fourth of the global average. Although the average of Bangladesh is worse than the global average in mobile internet, the speed of broadband connection is ahead. Compared to July last year, the speed of broadband connectivity in the world increased by an average of 31.87 % in July this year. This information was obtained by analyzing the data of the recently published Internet Speed Testing and Analysis Institute 'Ookla'. According to the information published on the company's website, the speed of mobile internet in Bangladesh has increased by 15.38 % in the last year. At the same time, the global mobile internet speed has increased by 59.5 %. According to the company, in July 2020, the average download speed of mobile internet in the world was 34.52 megabytes per second (Mbps). In July this year, it has increased to 55.07 Mbps. And the average download speed of mobile internet in Bangladesh in July last year was 10.92 Mbps. In one year, it has been 12.6 Mbps. According to the organization, the top 10 countries in terms of mobile internet speed in 2021 are: United Arab Emirates, South Korea, Qatar, China, Cyprus, Norway, Saudi Arabia, Kuwait, Australia, and Bulgaria. Bangladesh's position in the Ookla's Mobile Internet Speed Index is nearing completion. Like in June, Bangladesh was at 135 in July. However, 137 countries were on the list in the June report and 139 in July.

Bangladesh's First Electronic Payment Processing Platform Launched

Citibank, NA Bangladesh and MetLife Bangladesh have joined hands to introduce the country's first-ever receivable host-to-host (H2H) solution using Bangladesh Bank's EFT Debit (Electronic Fund Transfer) network. This solution is expected to enable MetLife Bangladesh to further enhance the effectiveness of its EFT premium collection from a large number of customers, who use this channel, as digital insurance premium payments through electronic funds transfer from a bank account is gaining popularity, according to a news release. The central bank's EFT Debit provides customers with the convenience of digitally paying their premiums through bank accounts and it does not require physical visits to banks to pay premiums. The platform is said to have been delivered through sophisticated technology integration between MetLife Bangladesh and Citi's award-winning online banking platform CitiDirect BE. The two organizations shave inaugurated this new electronic payment processing platform through a recently held virtual event, they said. "One of our core missions in Bangladesh is to bring innovation and new products which benefit the local industry," N Rajashekaran (Shekar), Citi Country Officer, said speaking of the importance of such an initiative. Ala Ahmad, Chief Executive Officer of MetLife Bangladesh, added, "At MetLife, we strive to enable technological advancements to make our insurance experience better and more convenient for customers. More and more customers now prefer electronic channels for premium payment, and it's a priority for us to collaborate on strengthening the diverse range of premium payment channels for our over 1.0 million customers."

UAE's TDRA in Move to Develop ICT for Smart Transport

The UAE's Telecommunications and Digital Government Regulatory Authority (TDRA) has made field measurements to develop criteria for compatibility between International Mobil Telecommunications (IMT) and Global System for Mobile Communications – Railway (GSM-R). The purpose of the measurements, the first of their kind in the Middle East, is to guarantee good quality of telecommunication services provided to individuals travelling by trains and that railway services are affected. TDRA is taking proactive steps to enhance the readiness of the ICT sector for future smart transportation and improve traffic management. These proactive steps are aimed to provide high-quality services and enhance the well-being of society members. Such measurements will enable train passengers to obtain high-quality communication and Internet services. They will help detect and neutralize any harmful interference that may lead to disruption or affect the quality of the communication services. Tariq Al Awadhi, Executive Director of Spectrum Affairs said: "The TDRA is keen to preserve and invest the frequency spectrum resources in the most appropriate way and provide the best services for the happiness of all of the Emirati society members. Competent teams in TDRA monitor frequency spectrum using the latest technologies to prevent any harmful interference affecting the telecommunication services. "Today, through these measurements, we have ensured the compatibility of IMT systems with GSM-Railway, which helps provide the best services without any conflict or harmful interference among systems used. The positive results we have obtained confirm the UAE's readiness for the future of smart transportation, and that the UAE possesses advanced infrastructure to serve this vital sector." These measurements are part of an assignment from the Technical Committee of the GCC Council Telecommunications Technical Office to TDRA. The committee requested to form a small GCC team headed by Saleh Al Masabi, Director of Spectrum Services at
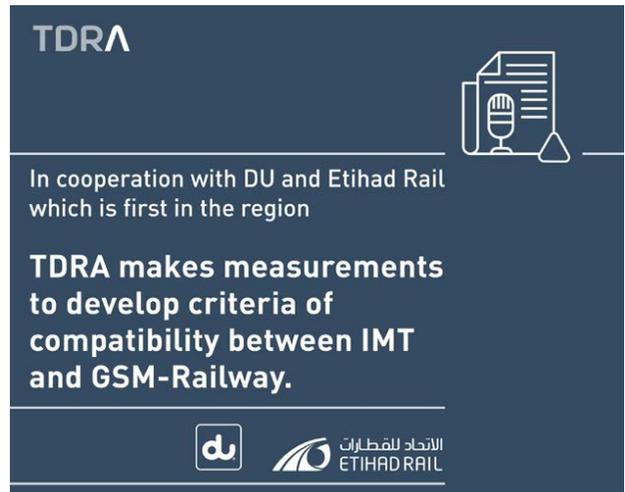
TDRA, to carry out these measurements. This assignment stems from the high trust placed in and national cadres of TDRA. The study included field measurements of all bands designated for mobile services, such as 2G, 3G, and 4G. Etihad train route in the Al Dhafra, Abu Dhabi, was chosen to conduct a study of the mutual impact of the two systems, i.e. IMT and GSM- R. The study concluded that the standards used at the current time can guarantee efficient work of the two systems without any harmful interferences. Furthermore, the current standards guarantee sufficient frequency ranges, broadcasting power of 30 to 50 watts, continuous coordination between service providers.

Bahrain Plans Multimillion-Dollar Data Hub to Boost Digital Transformation of Arab World

A new multimillion-dollar regional data center is set to be built in Bahrain to promote collective digital transformation across the Arab world. The hub's aim will be to help evolving local economies and enrich the lives of common people in the Arab world. The Arab League's Arab Federation for Digital Economy (AFDE) entered into a memorandum of understanding with ATDXT LLC, a digital transformation company, headquartered in the UAE on Sept. 1. The launch of the first- of-its-kind collaboration, will enable the new data center to focus on localized data protection, enhanced security, and rendering digital transformation solutions. The initiative's main hub in Bahrain will serve all member states of the Arab League. All member countries partaking in the initiative can leverage these solutions hosted in Bahrain, which is a key driver behind the Gulf's overall digital economy transformation efforts. These solutions will be focused on supporting both government and private sector entities in Arab League member states, with the aim of improving the competitiveness of Arab economies and fostering their integration into the global economy. The data center will aim to be eco-friendly and to host advanced technologies and

digital transformation solutions, servicing Arab League states. GS Murthy, founder & executive chairman, ATDXT Group, said: "We are delighted to partner with the Arab League and incubate the first of its many multi-million-dollar regional hubs, in Bahrain. The focus of this initiative will remain to be on digital transformation enablement, that will improve competitiveness of the Arab nations, and foster their integration into the global economy. We are confident that our best-in-class skill development initiative, focused on cutting edge technologies, will create immense job opportunities and future technology leaders across the Arab nations." Bahrain's Foreign Minister Abdullatif bin Rashid Al-Zayani said: "I appreciate the ATDXT Group for choosing the Kingdom of Bahrain to be the digital transformation solutions hub, reflecting the excellence of the investment environment in Bahrain and the many facilities they provide to investors. This partnership will enable us to contribute to the transformation of the digital outlook of the countries of the Middle-East and to continue to provide leading services to our citizens, residents and region as a whole."

Oman's e-Commerce Market Seen to Grow By 20% Annually

With a very high smartphone user penetration and a shift in online shopping triggered by the COVID-19 pandemic, Oman's e-commerce market is expected to record more than 20 percent average annual growth between 2021 and 2026. The sultanate's e-commerce market – valued at US$2.19bn in 2020 – is expected to reach US$6.52bn by 2026, according to an industry report released by market intelligence and advisory firm Mordor Intelligence. The e-commerce market in Oman, which currently accounts for a very small portion of total retail sales, has ample opportunities to grow in the future, the report 'E-commerce Market in Oman (2021-2026)' said. 'Despite Oman having one of the highest smartphone usage in the Middle Eastern region, only 8 per cent of the population did mobile shopping. Most of the items purchased online in Oman are groceries and music. However, more than one-fourth of the population of Oman still purchases products from foreign websites,' the report said. Currently, there is limited e-commerce activity in the private sector in the sultanate, whereas the government is actively promoting 'digital society' and e-government services through the Information Technology Authority (ITA), it noted. 'Omani e-shoppers mostly buy clothing, airline tickets, beauty care products, and

hotel services. There is an increasing trend among businesses, especially among Omani-owned SMEs and entrepreneurs, to promote and sell their merchandise through social media. The biggest hurdle in the e-commerce market is the changing mindset of people. Customers want to buy products directly from shops,' the report said. It said that the Internet penetration rate in Oman is estimated to be more than 75 per cent of total population, which will drive e-commerce growth in coming years. 'The sultanate is coming very close to 100 per cent smartphone user penetration. The country has a high mobile broadband penetration and its 4G coverage also reaches a high level. In recent years, Oman has made great efforts to build up its IT infrastructure both at governmental and private levels. Oman's mobile phone subscriber base is increasing with a penetration rate of more than 150 per cent,' the report added. Growing adoption of 4G and 5G technology, Mordor Intelligence's report said, is also driving the growth of e-commerce market. However, spending on telecom services and devices is decreasing as a result of large-scale job losses due to the ongoing COVID-19 pandemic. 'This decreasing trend of consumer spending can create a considerable barrier for this market. Major vendors in this market are also innovating their services to cater

to this untapped market. But overall economic growth of the country is expected to drive the e-commerce market,' the report said. The report acknowledged that different government initiatives and regulations are supporting the growth of Oman's e-commerce market. 'The Ministry of Commerce, Industry and Investment Promotion is continuously influencing people to adopt e-commerce for shopping, import, and other activities,' it added.

Pakistan Government and Etisalat Agree to Resolve Long-Standing Dispute

The Pakistani government and UAE-based Etisalat Group have agreed to resolve a long-standing dispute regarding the latter's acquisition of a minority stake and management control of Pakistan Telecommunication Company Limited (PTCL). According to a statement from the Ministry of Finance, Etisalat CEO Hatem Dowidar agreed to a proposal regarding the valuation of certain properties that were due to be transferred to PTCL under the 2006 privatization agreement. As noted by TeleGeography's GlobalComms Database, Etisalat purchased its 26% stake in PTCL and agreed to pay USD2.6 billion for the company, including around

USD1.8 billion up front with the rest to be paid in instalments over a five-year period. Etisalat refused to pay the outstanding funds on the basis that the government had not adhered to part of the privatization agreement, under which more than 3,000 properties would be transferred to PTCL. By 2015 the government had completed the transfer of the majority of these properties, with the remaining transfers – around 30 – deemed impossible due to legal impediments. In some cases, for example, the properties were held by private parties and should not have been included in the initial agreement. As such, the value of the outstanding properties will be deducted

from the remaining USD800 million owed by Etisalat. However, the two parties have failed to reach an agreement on the fair valuation of the properties. Under the finance ministry's proposal – to which Etisalat's CEO has reportedly acceded – the parties would establish a mechanism for the assessment of the disputed properties by unnamed 'internationally renowned evaluation companies. According to the statement from the government, the Etisalat official stated that evaluation of the properties could be completed in 'a couple of months.

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IN FOCUS

Use the Technology. Don't Buy it.

OmniClouds has a simple proposition — use the technology; don't buy it. Spread across 23 countries, it offers ICT as a service and wants to be your partner in the cloud. OmniClouds' unique proposition is to empower organisations to reach cloud services — or even their local and international branches — economically and reasonably where they pay as per their usage.

> *OmniClouds has a simple proposition — use the technology; don't buy it. Instead of investing in Information & Communications Technology (ICT), you should be simply using it to grow your business. This greatly reduces CAPEX and OPEX for organisations making it much easier to launch and create leaner more versatile verticals that can address a disruptive market environment.*

Tell us about OmniClouds and its operations.
At OmniClouds, we solve complex problems with simple strategies, with one of the world's most comprehensive platforms to cross the chasm of the Information & Communications Technology (ICT) sector. OmniClouds has a simple proposition — use the technology; don't buy it. Instead of investing in Information & Communications Technology (ICT), you should be simply using it to grow your business. This greatly reduces CAPEX and OPEX for organisations making it much easier to launch and create leaner more versatile verticals that can address a disruptive market environment.

What does OmniClouds offer, and can you explain briefly what the term 'cloud' refers to in the technology world?
In the old days, the ICT industry was on-premises, where you hosted your servers and software, took care of your security, and had your own IT people. The word "cloud" often refers to the Internet, which more precisely means a Data Centre full of servers connected to the Internet performing a service. However, the term "cloud computing" refers to the on-demand availability of computer resources such as storage and computing power without the end-user having direct active management on them.

In a classical technological world, every single company has its own set of applications installed on its premises at their own 'Data Centres', so this is what we refer to as an on-premises solution. Now, unfortunately, these solutions are very costly. It

Shaista Shaw
Head of Global Marketing
OmniClouds

costs a lot of money and requires full-fledged maintenance, upgrades, updates, software, and hardware compatibility issues and upgrading systems after every two or three years result in very high capital expenditure. If you were a big organisation, you ended up with armies of technology people to help you do your business. Now we have moved to the cloud, which can be leased. All you need to do is pay a monthly recurring cost for the services you consume, which is a subscription fee to be able to use these services.

What does OmniClouds offer to strengthen the SME sector?

The GCC, especially the UAE, takes great efforts to encourage homegrown businesses. For SMEs, it will be no less than 40-50 per cent in terms of transforming Capex required into Opex. More importantly, it is the safety of the spend since you have not invested in routers, switches or servers. Tomorrow if your business slows down, for example, because of a lockdown, you can reduce your ICT spends accordingly. OmniClouds' services have also made it possible for everyone — from global contact centers to retail chains — to have their employees working from home.

What strategies is OmniClouds adopting to address the growing concern of security and data privacy?

Yes, it differs from one industry to another industry. There are two important things I would like to mention here, the first one is regulations and the second is all of the technology that accompanies cloud access and it must provide secured connectivity to these applications and information. In a nutshell, we do ensure that the users' information and access to the clouds are highly secured. Our cloud partners like Microsoft, AWS, ensure that the application itself and access to the data are entirely safe within their premises. Our cybersecurity gurus ensure your network is equipped to respond rapidly to any threats. We have launched the Secure Access Service Edge (SASE) with which users at home can use an agent to connect to a domain controller, cloud or office with full network control without any hardware deployed. Customers get the best range of firewalls right at their home or office, for

just a nominal fee.

How has the pandemic affected the cloud computing industry?

The pandemic brought about the age of innovation. UAE has adapted rapidly to the new work-from-home environment and the cloud computing world is blos¬soming because of it. The Covid-19 pandemic sent many OmniClouds customers into a spin, including a global contact centre operator, whose agents were locked out of office by stay-at-home orders. An OmniClouds device called OmniRemote saved this company from potential collapse. The OmniRemote connects through an ADSL line and a SIM card, which enabled employees to connect to their contact centre and continue making calls. "Eventually, this business eliminated its office space by moving call centre operations to its home-based workforce, while expanding their agent number by 50 per cent," says Shaista.

Another customer in the banking sector is in beta testing for an encrypted virtual desktop, where the bank officer will be able to work from home at the same level of cybersecurity as if he were sitting in the office. With technologies built for the new way of working, OmniClouds is expanding fast.

What products and services does OmniClouds offer its customers?

We provide a range of services ca¬tered towards SMEs, bigger cor¬porations as well as industries such as retail, automobile, educa¬tion, finance, contact center and more. We also offer our services — OmniBranch to connect your branches, OmniConnect to link you to the cloud, OmniRemote to enable remote working, and OmniSec to take care of your security needs. By combining our products and services, we support businesses and companies to scale their operations and reach new markets.

Why is the education sector a key market for OmniClouds and what type of services do you offer in this sector?

Education is a key market for Omni Clouds, with both public and private providers in the region quick to jump in with the unique structures that cloud computing and remote

education can provide. For students, we offer flexible plans at single-digit dollars per month, for access to all their online course materials from K1 to K12, which is helping governments and schools move their entire offering online. We have created credits, with some education ministries in the Middle East, where OmniClouds is partnering to transform education from certificate oriented only to knowledge-based with access to thousands of library and approved curriculums along with accelerated access to top online games at a record low latency. We added this as part of our solution, communities loved it, governments loved it, we have people asking if they can use our service. To that our answer is always yes because they can use the service for one month and decide after that if they wish to terminate it."

Finally, how has 2020 shaped your thinking and influenced your plans for 2021?

The first thing we've learnt in 2020 is that we will not go back to what it used to be before the pandemic. Similarly, the economy of sharing is here to stay and you will share everything — a ride, a residential place, the workplace, computing resources. Besides, the world has become a place where remote interaction is a must. Cloud is the future and the present in the IT world. We can't downplay the importance of cloud solutions. Our respective governments are adopting cloud solutions. No one can stay away from the cloud. The people will definitely adopt this technology, when they realise that it is safe, cost-effective and easier to operate. We are helping organisations in these areas to transform and economise their business. OmniClouds are also working on the next generation of AI technologies, from software that lets banks identify customers on the end of a video call using facial recognition technology, to mesh networking that can route around physical Internet infrastructure in an emergency or the developing world. They have ideas for temporary buildings that could be classrooms by day and libraries by night, filled with digital books and learning materials. They will continue to push the boundaries and will be expanding into several more countries this year.

Definitely, a business to watch in 2021 !

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SATELLITE NEWS

Bangladesh to Send Observation Satellite into Space

The Bangladesh Communication Satellite Company Ltd (BSCL) has embarked upon a project to send a second satellite to space after the success of the first one known as Bangabandhu-I in partnership with Thales Alenia Space. Unlike the Bangabandhu-I, the second satellite is designed for observation including environmental monitoring, meteorology, and cartography. It can be used to clearly monitor the vast maritime territories of Bangladesh and surrounding countries. While such satellites have aerial surveillance applications in a military context, they can be used to monitor effects of man-made ecological disasters from poorly planned infrastructure projects in neighboring countries such as dams, power plants, and river diversion that may pose threats to Bangladesh in the long term according to The Bangladesh Defence Analyst security experts. Price water house Coopers (PwC) recommended the type of satellite following exhaustive feasibility studies. It is to be noted the cost for the second satellite will be lower than that of the first one because Bangladesh already has the ground station and other infrastructure in place. Bangladesh will also not need to lease any orbital slot because the satellite is a Low Earth Orbit (LEO) satellite with far less operational altitude. The Bangladesh government owned satellite management firm is working with Arianespace of France to jointly develop and launch the second satellite in to space before the tenure of the present government expires. The French company has launched more than 850 satellites since 1979 using several versions of its launch vehicles. Currently it offers the Ariane 5 heavy launcher, the Soyuz medium launcher, and the Vega light launcher. Bangladesh became the 57th country in the world to maintain a presence in space. The country is rapidly developing its technological prowess as it moves forward with its Digital Bangladesh plan.

Zimbabwe to Launch its First Satellite in 2022

The first Zimbabwean satellite, the ZIMSAT-1, will be launched in 2022. Zimbabwean engineers will assemble the nanosatellite, and it has reached an advanced development stage. In addition, flight readiness and review will be done in December 2021, and its launch is expected to take place in Japan in February 2022. The ZIMSAT-1 is a 1U educational and amateur radio mission cubesat manufactured under the Kyushu Institute of Technology in Japan. Japan's space agency, the Japan Aerospace Exploration Agency (JAXA), will launch it. "Congratulations and well done for this first national space project which lays the foundation for space and scientific programmes. This is indeed a major step in enhancing the deployment of earth observation technologies in supporting the National Development Strategy," the President, Emmerson Mnangagwa, said at the launch of the Zimbabwe Science Park and commissioning of the Zimbabwe National Geospatial and Space Agency (ZNGSA) on 13th September 2021. Zimbabwe is putting a lot of effort into developing its education system for the development of the nation. ZNGSA is housed in the University of Zimbabwe and manned by the young scientists from the innovation hubs under the Education 5.0 plan. This concept places higher institutions of learning as champions of modernization and industrialization. Launched in 2018, ZNGSA will make it possible for the country to manage its natural resources and mitigate the effects of climate change. Furthermore, it will be deployed for earth observation satellites, global navigation satellite systems, geospatial and space technologies. Additionally, these developments are part of the country's plan to catch up with other nations and become an upper-middle-class economy by 2030. Moreso, the president pledged more support to the newly commissioned agency to see the growth of a technology innovation environment that supports the development and use of new technologies.

Satellite Operators See Acquisition Opportunities

Companies that operate both geostationary satellites and low Earth orbit constellations say they see opportunities to acquire complementary firms but cautioned that a long-projected consolidation of the industry isn't likely in the near future. In a panel discussion at the Satellite 2021 conference here Sept. 7, Bret Johnsen, chief financial officer of SpaceX, discussed his company's quiet acquisition of Swarm Technologies, a company operating a constellation of smallsats providing internet-of-things services. Neither company announced the deal, which was disclosed only when Swarm filed a request with the Federal Communications Commission in August to transfer its licenses to SpaceX. That deal is still going through a regulatory review known as Hart-Scott-Rodino, he said, and he did not disclose the terms of the acquisition. The reasons he offered for the deal are similar to what Swarm disclosed in its FCC filing. "We identified a company that had

some intellectual property that we found interesting and a fantastic team that we can leverage," he said. "It felt like the right opportunity." Johnsen left the door open to additional deals. "We obviously haven't been very acquisitive in the past," he said. "If there was something that met the right requirements, I think it's something we would look at." Neil Masterton, chief executive of OneWeb, said his company is focused on small, targeted deals, citing as an example the company's acquisition in May of TrustComm, a managed satellite communications provider, giving OneWeb access to the U.S. government market. "These are capability fillers which help us on our organic build out," he said. "We will look at other, very small 'tuck-ins' that basically enable us to build out our capabilities to serve our customers." Among GEO satellite companies, Hadi Alhassani, vice president and chief strategy officer of Arabsat, said his company is evaluating a couple potential acquisitions of other

regional satellite operators to expand the company's geographical footprint. "To be honest, this is a good time to acquire," he said. "There are good deals out there in GEO." That doesn't mean, though, that a consolidation of satellite operators is imminent. "This is the conference where, every year, people ask if this is the year consolidation will happen," said Matt Desch, chief executive of Iridium. "It still hasn't, for the most part. But ultimately, some will have to." "I'm not sure where we are as an industry," he added. "Right now we're in a very choppy environment. There's a lot of companies not doing all that well." Desch said Iridium is open to considering acquisitions, but doesn't feel pressured to do so given its strong cash flow. "I don't think there will be suddenly a flood of mergers," he concluded. "Unless everything falls apart, and then maybe people will grab things quickly. But I think that's still some time away."

TurkSat, UK's Inmarsat Sign Partnership Deal on Communications Satellite

UK-based satellite communication company Inmarsat and Turkish satellite operator TurkSat have signed a first partnership agreement for the Turksat 5B communications satellite, which is set to go skyward at the end of the year. The deal announced Thursday was signed by Selman Demirel, Turksat Satellite

Services deputy general manager, and Inmarsat Vice President of Satellite Operations Mark Dickinson at Satellite 2021, the world's largest satellite fair, held in Washington, DC. Under the deal, Inmarsat Global Xpress services will be carried in Turkey over the Turksat 5B satellite. Global Xpress operating in the

Ka-band is the first and only high-speed mobile broadband network to seamlessly span the world, according to Inmarsat. Speaking at the signing ceremony, Demirel said the agreement would be good global cooperation, noting that Turkstat will have the opportunity to create a joint global capacity with Inmarsat. Dickinson also said the company wants to improve its relations with Turkstat, stressing the importance of Turkstat's capacity to meet the needs of users in Turkey and the region. "This is a really important step for Inmarsat to expand its Global Xpress Ka-band network," he said. With the announcement of Turkey's national space program this February, the implementation of programs for the creation of satellites for various purposes has accelerated. As of this January, the number of active Turkish satellites in Earth orbit had reached seven, a number made possible thanks to the successful launch of the fifth-generation telecommunications satellite Turksat 5A.

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ARTICLE

A New Era of Connectivity is Underway with IPv6+

Mark Oliver
Senior Consulting Director, Service Provider
OMDIA

The digital economy is a crucial engine for national economic development and will be critical for post-COVID recovery. With the advancement of digitalization, the adoption of technologies such as 5G and IoT has significantly accelerated given their status as essential technology enablers for the increasingly mobile digital economy. Meanwhile, networks have been facing an incredible surge in traffic as a result of this always-on connectivity. This has brought back into focus the migration of internet protocol from IPv4 to IPv6. We have known for some time now that the IPv4 system has severe limitations. Firstly, there are only 4.3 billion IPv4 addresses, and these are nearly exhausted. Secondly, private IPv4 addresses are currently widely used. The Network Address Translation (NAT) for public and private IPv4 addresses also faces ongoing delays and low efficiency. Research firm Omdia predicts there will be 25 billion IoT devices, 2.2 billion industrial IoT devices, 8.6 billion smart home devices, and two billion 5G subscriptions by 2024.

> *IPv6+ can accelerate the commercialization of new Industry 4.0 use cases in smart transport, smart mining, smart manufacturing, and other industries. It does so by creating on-demand and capillary networking through the combination of IPv6 address space for IoT devices combined with IPv6-based network slicing, AR/VR, and other technologies.*

Therefore, there is an inevitable need for IPv6 in today's 5G and cloud era. Whilst IPv6 adoption is not yet commonplace, commercial deployments are accelerating and governments around the world have issued policies to promote IPv6 migration.

Nonetheless, in order to meet the service requirements of various industries, global industry momentum is also gaining around further IP functionality innovation. For example, according to ETSI[1], cloud AR/VR services require high bandwidth and a latency of less than 20ms. Autonomous driving requires a delay of 5–20ms, while industrial automation requires a latency of 1–10ms. Moreover, smart city projects now use ICT to improve efficiency, manage complexity, and enhance citizens' quality of life. Smart cities encompass various initiatives across governance, safety and security, transport, energy, physical infrastructure, and healthcare. In short, the digital revolution has shifted from the "Internet of Everything" to the "Intelligent Connection of Everything".

This requires a new approach to IPv6, which we refer to as IPv6+. It is an innovation concept based on IPv6, and has a wide range of social, economic, and industrial values. Through the combination of massive address space and advanced technologies, IPv6+ can play a crucial part in smart cities achieving SLAs and helping KPI fulfillment.

IPv6+ can accelerate the commercialization of new Industry 4.0 use cases in smart transport, smart mining, smart manufacturing, and other industries. It does so by creating on-demand and capillary networking through the combination of IPv6 address space for IoT devices combined with IPv6-based network slicing, AR/VR, and other technologies. Benefits for these industries include improved efficiency and safer work environments, increased worldwide competitiveness, and reduced energy consumption.

In addition, IPv6+ allows for new service innovations. This includes selling differentiated quality of service through network slicing and shortening provisioning times to match cloud-application requirements, all through automation and software-defined networking (SDN) control.

There is much more innovation to come as IPv6 and the closely associated technologies of IPv6+ expand and mature. Created in October 2020, the ETSI IPE (IPv6 Enhanced Innovation) Industry Specification Group aims to identify new IPv6-based use cases and specify requirements needed to enable the deployment of IPv6 across new and evolving technology domains, including 5G, AI, and hybrid multi-cloud services. IPE aims to drive full connectivity with IPv6, enabling the vision of "IP on everything."

Ultimately, we must remember that the scale of IP networks is expanding. The attributes of IP connectivity are increasing. The application scenarios supported by IP continue to be diversified. With this in mind, a digital world in which IP is ubiquitous—and intelligence is omnipresent—beckons.

> *Created in October 2020, the ETSI IPE (IPv6 Enhanced Innovation) Industry Specification Group aims to identify new IPv6-based use cases and specify requirements needed to enable the deployment of IPv6 across new and evolving technology domains, including 5G, AI, and hybrid multi-cloud services.*

[1] ETSI, IPv6 Best Practices, Benefits, Transition Challenges and the Way Forward, ETSI White Paper No. 25, August 2020

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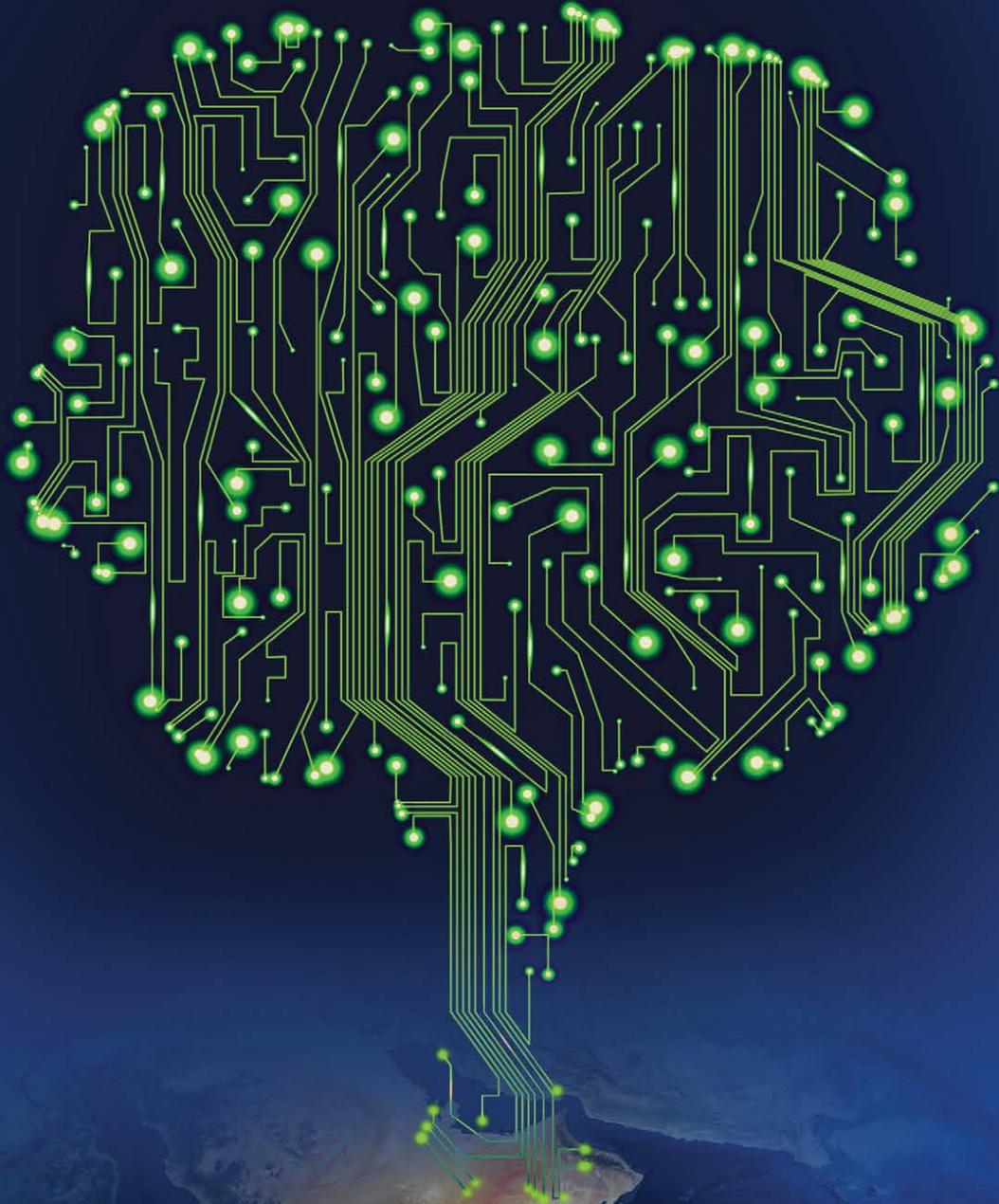
WHOLESALE NEWS

Domestic Mobile Roaming Initiative Begins Operations

The 'Local Roaming' (national mobile inter-network roaming) initiative backed by Saudi Arabia's Communications & Information Technology Commission (CITC) has been launched under an agreement between the Kingdom's three main cellcos Saudi Telecom Company (stc), Mobily and Zain. A press release on Zain's website confirms that the first phase of the domestic roaming service was launched as planned in the Asir region, giving mobile users access to any available network in the event of coverage gaps on their own provider's network. It is expected that the service will eventually cover around 21,000 villages and settlements spread over 147 governorates throughout the Kingdom, including desert zones.

JCRA Issues Final Notice Related to Wholesale Broadband Price Review

The Jersey Competition Regulatory Authority (JCRA) has issued the final notice confirming the prices that JT Jersey will be able to charge for the wholesale bitstream service offered over its full fiber network. Having previously issued a final decision and initial notice related to the matter back in June 2021, the regulator noted that the release of its final notice represented 'the final stage' of the price review. Under the JCRA's rulings JT Jersey will now be required to lower the price of wholesale broadband from GBP31.25 (USD43) to GBP27.94 per user per month from 1 October 2021, with further reductions to culminate in the charge falling to GBP24.51 by 2026. As previously reported by CommsUpdate, in publishing its initial notice earlier this year the JCRA said it was confident that the five-year plan for price caps would encourage new retail competitors into the fixed broadband market, while encouraging 'other licensed operators ('OLOs)' to invest in their broadband services.

CamTel Signs National Roaming Deal With MTN

State-owned fixed and mobile operator CamTel has announced the signing of a memorandum of understanding (MoU) with MTN Cameroon for the implementation of national roaming services. As such, the firm's wireless subscribers will now have access to MTN's network in areas not covered by CamTel's own network, thereby maintaining service connectivity. Last month CamTel unveiled its new 'Blue' brand name for its fixed, mobile and internet services, which will be made available nationwide.

3 UK Ditches Free Roaming in the EU

Operator 3 UK followed in the footsteps of EE and Vodafone UK by reintroducing roaming fees for users visiting the European Union (EU), a decision the operator explained was caused by too many uncertainties around the cost of services used abroad. From 23 May 2022 a charge of £2 per day when roaming within the EU and £5 outside the bloc will be applied, affecting customers who have switched to 3 UK or upgraded to new terms from 1 October 2021 onwards. Customers travelling in the Republic of Ireland, prepaid and post-paid customers signed up before October will not be impacted. The operator explained uncertainties had "made it commercially unviable for us to continue" offering free roaming in the bloc. Factors include varied underlying roaming costs, which the operator asserted prevented it from seeing the maximum amount needed to provide a service to customers located abroad. It deemed its new pricing to be "as simple and affordable for customers as possible", and expressed belief the move will enable it to continue investing in network and infrastructure improvements. EE and Vodafone each plan to restore EU roaming charges from January 2022.

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Business Excellence in Telecom

Hyperscalers have made a massive dent in telco fortunes. The traditional voice revenue has also been dwindling, and data monetisation remains a challenge for most telcos.

Digital native companies have disrupted the traditional telco

> *New entrants have leveraged next-generation technologies like Software Defined Network (SDN) and Network Function Virtualisation (NFV) to dramatically transform their business and operating models and make them highly cost-competitive.*

customer engagement model by setting new seamless online customer experience standards. Digital technologies like AI (Artificial Intelligence), Internet of Things (IoT), big data, and cloud/edge have accelerated business model disruptions - e.g. SaaS (Software-as-a-Service) model. New entrants have leveraged next-generation technologies like Software Defined Network (SDN) and Network Function Virtualisation (NFV) to dramatically transform their business and operating models and make them highly cost-competitive.

How are Telcos addressing the Challenge?
Telcos withstood the 2020 pandemic well. They enabled remote working for businesses, connected people online to education, family, and healthcare. However, the pandemic also accelerated some of the prevailing trends, making it imperative for the telcos to urgently undertake rapid transformation to attain all-around business excellence in revenue generation, cost optimisation and customer experience superiority.

We have identified eight critical focus areas for telcos (Figure 1) to attain business excellence through digital transformation.

These include strategic direction and transformation vision/blueprint, visionary leadership, employee engagement and participation in decision making as well as change management, partner ecosystem, innovative business model, innovative digital products, operational excellence (across process, systems, data and people) using lean operations principles and seamless customer experience across omni-channels.
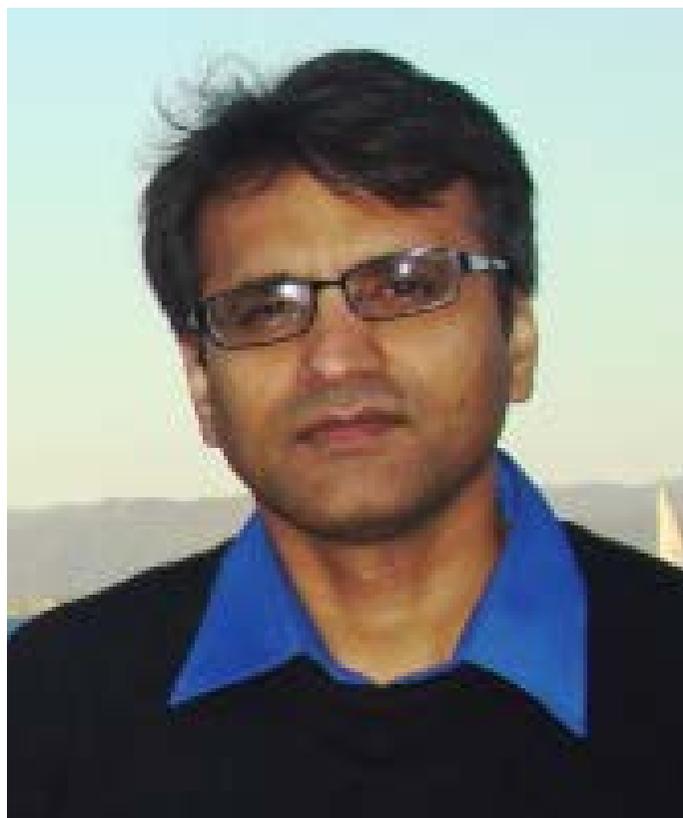
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Vice President, & Head Communication, Media, Entertainment (CME) Consulting
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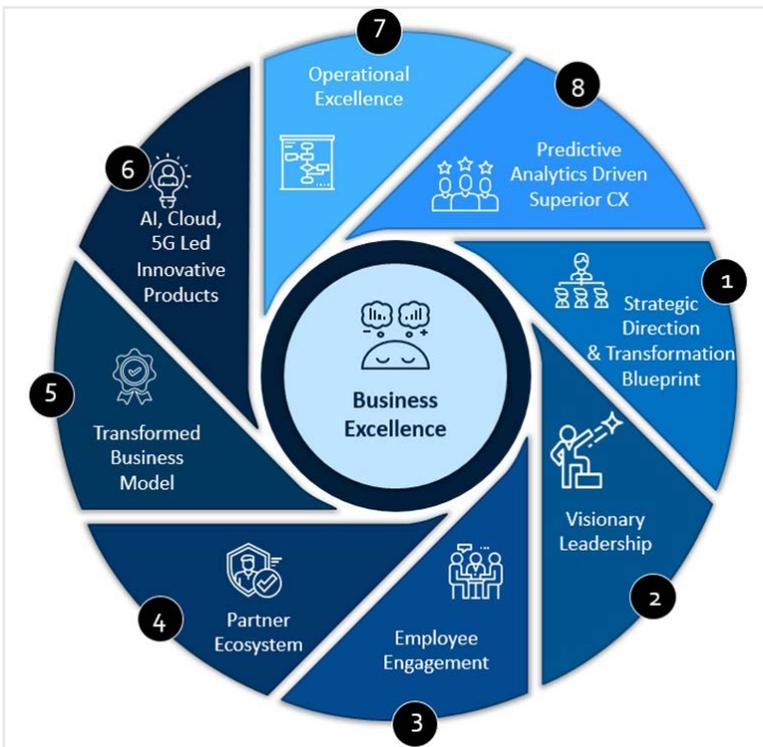
Figure 1: Eight Areas of Focus for Telco Digital Transformation

Figure 2 below depicts various telco domains and the specific initiatives across domains to attain operational excellence.

Telcos can have two types of initiatives: one, initiatives that are common across the entire business architecture (shown on the left-hand side in the above diagram). Typically these are the initiatives pertaining to assessing digital maturity, financial benchmarking, cloud migration, lean operating model and business process re-engineering etc.

The second type of initiatives are more specific to individual domains of telco business architecture, e.g. BSS/OSS transformation, product portfolio optimisation, service design etc.

What Benefits Have Tech Mahindra delivered for our telco customers? (Sample, not exhaustive)

There are number of examples wherein Tech Mahindra has helped telecom operators in their transformation journey. These include – transformation of customer experience (440% improvement in NPS) for a UK based telco, Cost savings of ~€45 mil through Business Process Re-engineering (BPR), Automation & Low Code, No Code delivered to Dutch telco, helping a large telco conglomerate's UK business with service design function to enable 5G standalone launch for UK, cloud integration factory (for architecture simplification, cloud first approach) for a tier I US telco, improved process efficiency (by 30 %), increased release volumes (by 40%) through agile CoE for Germany based multinational telco, upskilling CIO organisation in the area of agile and DevOps using Tech Mahindra's dedicated learning portal IP (D3OP) for Tier I Australian telco

Where to start?

Ideally, telcos should start by baselining their as-is state of affairs. This assessment should holistically look at business processes, applications, performance measures, data etc. In addition, assessing the organisation's digital maturity should also be a part of the as-is assessment.

Needle Analysis used to benchmark telco's financial performance vis-à-vis its competitors should also be leveraged. The Needle Analysis should help telcos formulate the right digital transformation initiatives keeping the mind the financial performance improvements the telco is targeting.
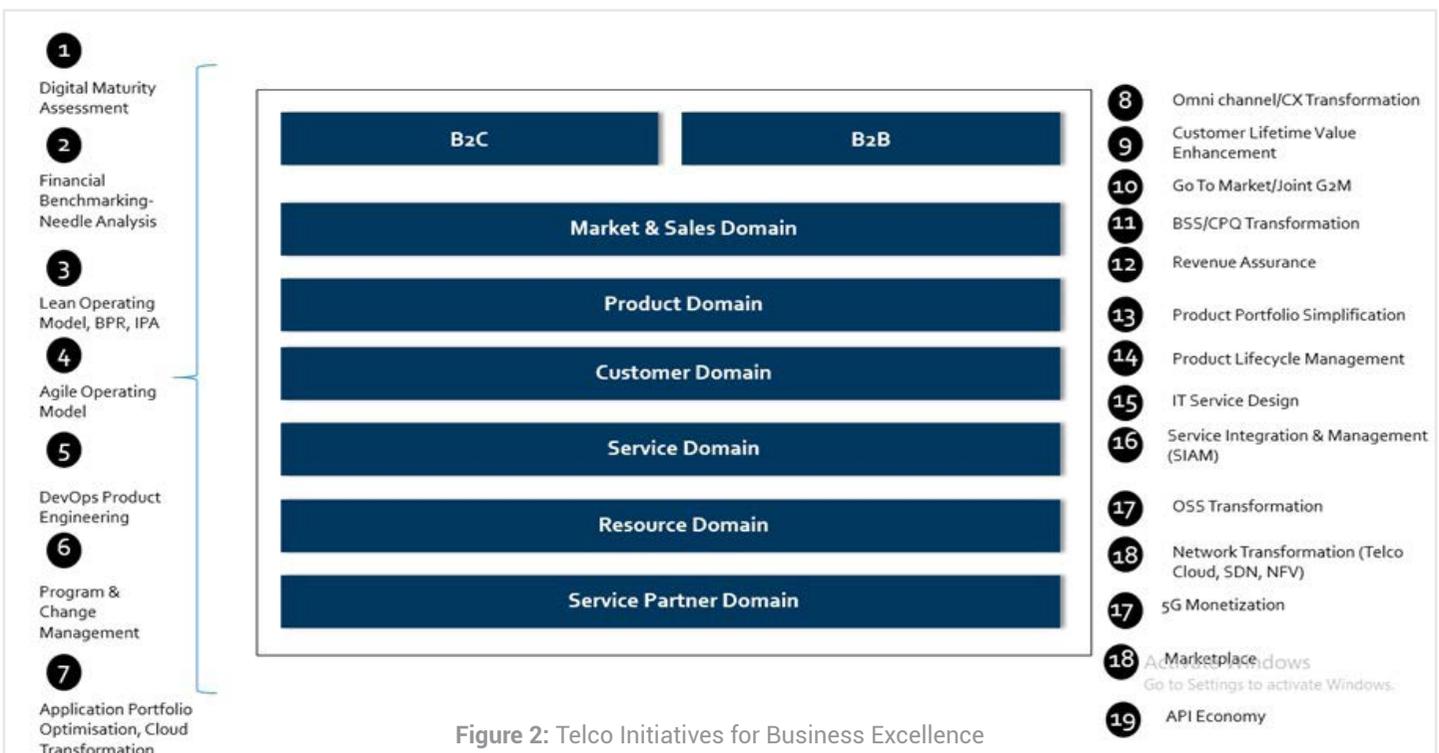
Figure 2: Telco Initiatives for Business Excellence

TECHNOLOGY NEWS

EU, US Join Hands on Chip Supplies, Big Tech

The European Union (EU) and US reaffirmed a commitment to build partnerships aimed at rebalancing global semiconductor supply chains and collaborate to lead development in the segment, while also pledging to work together to regulate the big tech sector. In the first meeting of the recently-formed EU-US Trade and Technology Council (TTC), numerous objectives to coordinate approaches on key technology issues were up for discussion. Semiconductors were identified as a top priority

during the meeting, which was co-chaired by high-ranking officials including European Commission EVP Margrethe Vestager. In an inaugural statement, the TTC explained the US and EU would work to enhance security of supplies and their respective capacity to design and produce semiconductors, "especially, but not limited to, those with cutting-edge capabilities". The partnership would be balanced and of equal interest to both sides, while they further underlined the importance of working together to identify gaps in the value chain and strengthening domestic markets. Addressing a current chip shortage, the group detailed an initial focus on short-term supply chain issues, with longer term goals to be defined at a future meeting. TTC also agreed joint development of AI platforms, and cooperation on screening investments and export controls covering sensitive technologies. The group added it planned to engage with tech giants to improve data practices. "We are committed to transatlantic cooperation regarding platform policies that focus on disinformation, product safety, counterfeit products, and other harmful content." While TTC did not specifically mention the threat posed by China, the message was clear. "We stand together to protect our businesses, consumers and workers from unfair trade practices, in particular those posed by non-market economies that are undermining the world trading system."

Vodafone, Nokia, Cisco, and Others Conduct First Multi-Vendor Test of New Broadband Standard

Vodafone, Nokia, Cisco, Benu Networks, and Casa Systems have successfully conducted the first multi-vendor test of a new broadband standard. The vendors tested a new open architecture for the Broadband Network Gateway (BNG). BNGs are critical for connecting multiple users to the internet but have historically been locked to a single supplier. Disaggregated BNGs based on the global TR-459 standard from the Broadband Forum will enable the component to work using separate software and hardware from multiple vendors. "Cisco is committed to driving solutions to expand broadband penetration worldwide," said Andy Schutz, Product Management Senior Director for Cisco. "We believe the work being done in the Broadband Forum is fundamental to these efforts, especially in the area of creating

greater flexibility and choice of control and user planes from different vendors leveraging the TR-459 standard." Just as Open RAN is helping the mobile ecosystem to avoid vendor lock-in, disaggregated BNGs will help to do the same for fixed broadband. "We are already driving a more diverse and open mobile ecosystem with Open RAN, and now we are targeting fixed broadband," explained Johan Wibergh, Chief Technology Officer for Vodafone. "As an industry, and with government support, we owe it to people with no or slow internet access to quicken the rollout of new capabilities on fast, fixed broadband." The multi-vendor test successfully separated core gateway control functions – including authenticating a user and increasing bandwidth to support streaming services – and enabled them to be managed in the

cloud. "As a leading BNG vendor, Nokia is pleased to demonstrate support for a wide range of BNG deployment models including Broadband Forum's disaggregated BNG architecture," commented Vach Kompella, VP and GM of Nokia's IP Networks Business Division. "Nokia envisions a significant evolution in BNG architecture with the introduction of CUPS in fixed, wireless and 5G fixed wireless applications which will allow rapid feature introduction, optimal user plane placement and selection, as well as improved operations." Vodafone says the use of disaggregated BNGs will enable it to upgrade, scale, and deploy new features and add more capacity separately, increasing agility when making enhancements across its broadband network.

ITU and Vodafone Launch Initiative to Connect 3.4B Unconnected

United Nations agency International Telecommunication Union (ITU) has partnered with Vodafone to launch an initiative to connect 3.4 billion people. An internet connection is increasingly vital in the modern world to unlock opportunities. Faster connections can mean even greater opportunity, but any connection is better than none. According to research by the ITU last year, of the 3.7 billion people who are not connected to the internet, 3.4 billion live within the range of a mobile network. A major part of the reason is due to a lack of smartphone ownership. A new working group has been created under the auspices of the ITU/UNESCO Broadband Commission for Sustainable Development that aims to identify policy, commercial and circular-economy interventions to increase smartphone access. The working group is co-chaired by Vodafone Group CEO Nick Read and ITU Secretary-General Houlin Zhao. "Vodafone is honored to be part of this monumental global initiative with the UN, to improve the lives of billions of people through smartphone access. As our societies become more digital, everyone should have the ability to find jobs, be able to get public services, financial services and critical information that are increasingly only available through the internet," said Read. "This is such a complex challenge that no network operator, device manufacturer,

financial services provider or national government can solve on their own – but working together we can break through the barriers." With 4G networks now covering 82 percent of the population in Low- and Middle-Income Countries (LMICs), the mobile usage gap is six times larger than the mobile coverage gap. "Achieving the Broadband Commission Global Targets requires a multi-stakeholder approach," commented Zhao. "I am pleased to co-chair this newly established Working Group, which will also help address the challenges posed by the COVID-19 pandemic and ensure that we put smart devices in the hands of those who are left behind."

The working group will set out to:
- produce original analysis and data on the smartphone access gap;
- quantify the social and economic impact of providing everyone with smartphone access by 2030, including moving users from 2G feature phones to 4G smartphones;
- analyze initiatives or pilots designed to increase smartphone access.

Other launch partners of the working group include the Alliance for Affordable Internet, GSMA, the government of Ghana, Safaricom, Smart Africa, Vodacom Group, and the World Wide Web Foundation.

A report titled Africa.Connected has been published to coincide with the formation of the working group. The report highlights that a multi-stakeholder approach consisting of four key steps will be needed to increase digital inclusion in a region where the mobile usage gap is the largest in the world:

1. Make 4G devices more accessible – Nearly 2.5 billion people live in countries where the cost of the cheapest available

smartphone is unaffordable. Expanding device financing schemes for those with poor or no credit history; reducing the amount of tax on 4G smartphone imports and increasing local manufacturing of devices within Africa are suggested as ways to address this issue.

2. Invest in the demand for 4G services – 375 million young Africans are expected to enter the labour market by 2030 and will need the skills to excel in a digital economy. The report suggests increasing financing and support for digital start-ups and that device manufacturers could create more inclusive products.

3. Provide targeted financing for underserved demographics – Programmes need to take account of, and target, the large gender gap and rural-urban gap that exist in respect of device ownership in sub-Saharan Africa.

4. Re-farm 2G spectrum – Repurposing mobile spectrum currently used for 2G devices would enable more people to use 4G.

"While Ghana and other countries have made great strides in the development of mobile infrastructure and the usage of digital services such as mobile money, it is noticeable that 45 percent of people in West Africa are covered by mobile broadband networks but do not use the internet," explained Ursula Owusu-Ekuful, Ghana's Minister for Communications and Digitalization. "Addressing the mobile internet usage gap is vital for the long-term economic development of my country and many others across the world and will require new partnerships and focused action from a range of organizations."

Tanzania Partners Power Company TANESCO to Increase Broadband Connectivity

Tanzania's Ministry of Communication and Information Technology has signed a memorandum of understanding (MoU) with Tanzania Electric Supply Company (TANESCO) to expand broadband connectivity across the country, reports

Daily News. Under the agreement, state-owned Tanzania Telecommunication Corporation will utilize TANESCO's electricity infrastructure to roll out fiber-optic broadband connectivity. At present, the country's national fiber-optic network

stretches 8,319km and connects 21 regional capitals, but the agreement is expected to increase the length of the infrastructure by 4,450km and connect the remaining ten regions.

ARTICLE

Leveraging CPaaS to Deliver Superior Customer Experience

The COVID-19 pandemic of 2020 turbocharged digital transformation initiatives across enterprises worldwide. Even heavily regulated sectors like healthcare, government, and banking embraced digital communication tools such as mobile apps, video, messaging services, and chatbots.

The shift has also transformed customer behavior. Customers now expect businesses to be 'always on' and available on their platform of choice. The trend is especially true for Gen Z — a generation that relies on digital solutions (chat, messaging platforms, digital payments, and more) for everything.

> *The pandemic exposed the shortcomings of human-capital-intensive customer care or call centers. As enterprises digitized their customer support within weeks, they also realized the value of digital media and enriched mobile experiences. The world won't go back to the way it was before 2020, and as such, enterprises must step up their customer engagement game.*

As a result, communication service providers (CSPs) have an opportunity. They can offer communications platform-as-a-service (CPaaS) solutions for enterprises across sectors to build customer-centric experiences and boost engagement.

The rise of CPaaS
CPaaS solutions are cloud-based and let businesses add modern communication channels to their applications via APIs. These include foundational channels like SMS, A2P, voice, and emerging channels like video, messaging apps (WhatsApp, Viber, Telegram, WeChat, Apple Business chat, etc.), biometric security, and digital payments.

Deshbandhu Bansal
COO and Head of Messaging Solutions
Comviva Technologies

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Retail brands can send notifications about recent purchases, delivery status, abandoned carts, and more with an SMS or email. Ride-share apps can let customers book cabs, call the drivers within the app to guide them, and pay for the trip using payment methods integrated with the app. In an increasingly digital world, the demand for such CPaaS applications will continue to surge.

According to IDC, the CPaaS market is expected to grow from $4.2 billion in 2019 to $17.7 billion by 2024, revolutionizing enterprise customer engagement strategies over the next few years. Upstart CPaaS providers and aggregators are leading the way, offering stiff competition to CSPs as they're simple, affordable, and easy-to-scale.

To differentiate themselves, CSPs must:
• Embrace a digital-first approach
• Offer unified CPaaS solutions
• Choose to integrate right digital channels

Let's explore each of these differentiating factors.

How a CPaaS-driven digital transformation can improve engagement
The pandemic exposed the shortcomings of human-capital-intensive customer care or call centers. As enterprises digitized their customer support within weeks, they also realized the value of digital media and enriched mobile experiences. The world won't go back to the way it was before 2020, and as such, enterprises must step up their customer engagement game.

CPaaS provides the flexibility to switch between multiple channels to provide a true omni-channel customer experience.

How a centralized communications platform can streamline communication
Sewing together a motley group of communication channels might make it easier for businesses to stay in touch with their customers. However, they can lead to incoherent messaging.

For example, a retail brand can end up sending the same messages via SMS and email, irritating the customer and leading to higher attrition rates. CPaaS allows integration of disparate digital communication channels, thus, building a coherent system that helps send customized and coordinated notifications according to customer segment or buyer journey stage.

How focusing on customer's preferred digital channels can give CSPs an edge
Different customer demographics across the world prefer different digital channels. Before building a CPaaS solution, CSPs must map the right channel for each customer segment. While Gen X prefers email, SMS and Facebook Messenger, millennials and Gen Z might prefer WhatsApp, Signal, or Telegram. As more channels of communication emerge, these preferences are bound to change and evolve.

Similarly, the preferred communication channels across geographies might vary. For instance, if the target demographic is in North America, CSPs should focus on Facebook Messenger, whereas for customers in South America, the priority should be WhatsApp.

That's why a CPaaS shouldn't tie itself to a single digital channel. Instead, it should opt for the channels where its target demographic is the most active.

The way forward for CSPs
In an experience-first economy, enriching customer interactions to build loyalty and improve retention will be crucial for any business to thrive.

With CPaaS, enterprises can personalize customer journeys and build an end-to-end interface that handles all customer interactions from sales to support. In addition to generating new revenue streams, CPaaS solutions provide CSPs with an edge to serve the digital natives with superior customer experience.

REGULATORY NEWS

TRA Issues the First License to Execute Trust and e-Signature Service to BENEFIT Company

In light of supporting the digital transformation strategy in the Kingdom of Bahrain, the Telecommunications Regulatory Authority issues the first license to execute e-signature and trust services, to BENEFIT Company at the beginning of August. On this occasion, TRA's Director of Cyber Security & Technical Affairs Eng. Mohamed Alnoaimi said "Through licensing trust and e-signature services, TRA seeks to keep pace with the latest technologies and developments to carry out its tasks and perform its duties to achieve the strategy of the digital transformation. The e-signature service is the latest initiative of TRA in this field. The increased use of "e-signature" will help to enhance the efficiency of administrative work and the level of performance of government and private services in accordance with the rapid technological trends." Alnoaimi stressed on TRA's commitment to assessing all systems and processes on a periodic basis to ensure their contribution to fulfilling the needs of residents while preserving all parties' rights. TRA also supports initiatives that promote the adoption of latest developments and technologies that improve high quality of service. BENEFIT's Assistant General

Manager for Information Technology, Mr. Riyadh Al-Maraj said, "We are pleased that BENEFIT Company is the first entity in the Kingdom of Bahrain to obtain a license for trust services and e-signature, after passing the standards and specifications for providing the service according to the regulations issued by TRA." "BENEFIT has invested in establishing an advanced technical infrastructure according to the very best international practices to meet the requirements of this license, which we look forward to opening wide doors for

many future applications." Al-Maraj added. Trust and e-signature services come within the package of servicers as per the legislations and laws of the Kingdom of Bahrain in accordance with the provisions of Articles (20) and (21) of the Electronic Communications and Transactions Law. E-signature services allow conducting and signing transactions electronically and remotely, and promoting and adopting e-signatures as a safe and reliable method when conducting transactions and services electronically.

GSMA Renews Calls for Digital Divide Action

Industry association GSMA kept up pressure for action to address a global digital divide despite revealing the proportion of mobile internet users broke through the 50 per cent mark for the first time during 2020. In its newly-released State of Mobile Internet Connectivity 2021 report, the GSMA estimated 51 per cent used mobile internet in 2020 compared with 49 per cent in 2019. But, while hailing the achievement, it noted 3.8 billion still lacked access, despite the majority (3.4 billion) living in areas with suitable coverage.

It noted in a statement this so-called usage gap is a "far bigger challenge" than coverage alone, citing factors including a lack of digital literacy and skills, and device costs as barriers to use. "Mobile is the primary and often the only way to access the internet in low- and middle-income countries. While more people than ever are now using the mobile internet, some fundamental barriers stop far too many people from using" it, GSMA chief regulatory officer John Giusti explained. He called for "targeted and collaborative

action" by governments and the industry to bridge the digital divide. The GSMA also released a report covering sub-Saharan Africa which found 495 million people subscribed to mobile services by the end of 2020, up by almost 20 million on 2019. Adoption of 4G recorded an uptake while 3G growth was slowing rapidly. The GSMA called for governments and regulators to ensure there is enough spectrum for mobile services and to open mid-band frequencies for future rollouts of 5G.

Middle East Operators 'Playing Key Role in Global Connectivity'

The cable providers located in the Middle East are uniquely positioned to meet the new exploding demand for high-quality connectivity in the region and beyond, a report said. Subsea cables are the backbone of modern communications and are of vital importance to economics across the world, according a recently released whitepaper titled "The role of subsea cables in the economic transformation in the Middle East" from Analysys Mason, a top TMT management consulting firm. Responsible for carrying the majority of the world's data and voice transmissions, there are more than 390 in operation globally, with 30 in the Mena region. The criticalness of such infrastructure is due to the rapidly increasing demand for the number of individuals using internet grew at a CAGR of 8% to 56 million, while international bandwidth grew with a CAGR of 46% – each individual is demanding more bandwidth. The rising demand for more bandwidth coincides with a need for low latency, highly reliable connectivity. These connectivity characteristics are among the most vital factors in enhancing network performance. With users now requiring global networks to support mission critical tasks and an ever-more diverse range of use cases – from traditional voice and data transmission to gaming, AI development and healthcare – they need their connectivity providers to ensure the most direct route between endpoints to lower latency and optimized connectivity. Providers which possess a multilayer terrestrial and subsea cable meshed smart network are best suited to deliver, with those in the Middle East found to be even more equipped through ideal geographical placement to bridge East to the West and North to South, the report said. Gulf Bridge International (GBI), has responded to the whitepaper, which explores what's causing the surge in demand for high-quality connectivity and the opportunities for wholesalers and enterprises. Cengiz Oztelcan, CEO of GBI, said: "The Analysys Mason whitepaper sets out just how vital subsea cables are to global economies and the continued development of all nations across the planet. High quality connectivity, which means low latency and reliable connections, is essential to meeting new demands and that requires continued investment into cable infrastructure." "GBI is among the most connected carrier's carriers in the region, moreover we possess all the provisions required for high quality global connectivity. Our location means we provide the most direct routes between Asia and Europe, with our GBI Smart Network runs through Turkey to major European points of presence and also through the Red Sea to Italy. "We're the connectivity hub for the GCC region and much further afield. It's a really exciting time to be in the connectivity space and there's plenty of opportunities for wholesalers and enterprises to deliver for their customers and users," Oztelcan added. Brendan Press, CCO of GBI, said: "The GCC region has seen huge growth in recent years and there are still significant opportunities as smart connectivity leads to a further acceleration in digital transformation. The GCC is developing as a hub for access to cloud services, enabling businesses and governments to develop and benefit from an expanding suite of services. "Now is the time for telcos and enterprises to focus on optimizing connectivity to build a competitive advantage as the market appetite for new service grows rapidly. It's the providers that can deliver trusted and optimized connectivity now that will provide a platform for digital services and regional growth prospects."

PTA Concludes Spectrum Auction in Azad Kashmir and Gilgit-Baltistan

The Pakistan Telecommunication Authority (PTA) has confirmed that the auction of spectrum for Next Generation Mobile Services (NGMS) in the administrative regions of Azad Jammu & Kashmir (AJK, colloquially referred to as Azad Kashmir) and Gilgit-Baltistan (GB), was completed on 28 September 2021. The e-auction was contested by CMPak (Zong) and PMCL (Jazz) and spanned over 18 rounds of bidding. Upon completion, Zong emerged as the winner of 10MHz (2×5MHz) in the 1800MHz band having agreed to pay USD14.398 million for the frequencies. The regulator noted in its press release that the 1800MHz spectrum sold comprises '85% of the total offered spectrum in the said band for AJK and GB'. In addition, the PTA confirmed that Telenor Pakistan, Ufone and Zong have also won 1.2MHz bandwidth in the 1800MHz band. Furthermore, the PTA said that Telenor was declared the winner of frequencies in the 2100MHz band, securing 15MHz of spectrum 'against the set base price'. The spectrum sold constitutes 50% of the total offered spectrum in the 2100MHz band, it noted. In total, the auctions raised more than USD30 million for state coffers.

BTRC to Hold 5G Auction in December; 60MHz in 3.5GHz Band Awarded to Teletalk

The Bangladesh Telecommunication Regulatory Commission (BTRC) is planning to hold an auction for 5G spectrum in December 2021, with a 5G service launch currently slated by 2023, The Business Standard writes. Shahidul Alam, director-general of the BTRC's Spectrum Department, was cited as saying that the regulator has awarded 60MHz of airwaves in the 3.5GHz band to Bangladeshi state-owned operator Teletalk to facilitate the 5G introduction. The BTRC will distribute the remaining 400MHz of spectrum in the 3.5GHz band to other operators via a tender.

A SNAPSHOT OF REGULATORY ACTIVITIES IN THE SAMENA REGION

Afghanistan

Johannesburg-based emerging markets mobile carrier MTN Group is reportedly in talks with potential buyers for its MTN Afghanistan wireless unit as it accelerates plans to exit the country in the wake of the recent takeover by the Taliban. Press cites unnamed people with knowledge of the matter as saying that MTN is in talks with several interested parties, although the negotiations reportedly do not include any Chinese buyers. A write-down of MTN's Afghanistan operation without any proceeds from a disposal would cost about USD49 million, they said. The news agency notes that in unveiling its new government this week, the Taliban stated that investments from China will be key to helping rebuild an economy devastated by decades of war. In August 2020 the South African carrier announced its intention to make a strategic exit from the Middle East region to focus on the African market. In announcing its interim financial results for 1H20, it said: 'As part of our ongoing portfolio review, we believe the group is best served to focus in the future on our pan-African strategy. We will therefore be exiting the Middle East in an orderly manner over the medium term. As a first step we are in advanced discussions to sell our 75% stake in MTN Syria to TeleInvest, which is the minority shareholder in MTN Syria with a 25% holding.' MTN Afghanistan is the country's leading mobile provider by subscribers with around 2.35 million users and a 27.6% market share. (September 10, 2021) Bloomberg.

Bahrain

There are now 121 mobile phones for every 100 people living in Bahrain, says the country's telecom watchdog. Mobile phone penetration has reached 121 per cent, with 98pc describing call quality as 'excellent', the Telecommunication Regulatory Authority said. The authority said it closely monitors key performance indicators throughout the year to ensure fair competition in the market. It operates a platform designed to continuously assess and monitor the Quality of Service (QoS) of the most widely used broadband packages in the country, for both fixed and mobile networks. The measurement platform consists of 21 fixed probes distributed at seven locations: Budaiya, Seef, Hamad Town, Manama, Muharraq, Riffa and Sanad. Acting general director Shaikh Nasser bin Mohammed Al Khalifa said the watchdog is working to improve services, reduce prices and offer consumers greater options in service packages and providers.

(September 26, 2021) zawya.com

Bangladesh

Posts and Telecommunications Minister Mustafa Jabbar has said that Bangladesh will enter 5G era in December this year. He said, "The process of introducing 5G technology is a planned effort of the government. Teletalk will launch 5G technology by December. It will be expanded later. We will also see other operators rolling out the 5G within 2022." The minister came up with the disclosure while addressing a webinar titled "5G: Ecosystem in Bangladesh and Upcoming Technologies" organized by Telecom Reporters' Network Bangladesh (TRNB). The success of technology cannot be achieved without the involvement of the people, Jabbar said, adding that the people need to be motivated and involved in the process while the media can play an important role in this regard. Noting that the technology of the Fourth Industrial Revolution would be the 5G, he said, "We have already tested 5G through Huawei and Robi, which has boosted our confidence. Through this, we have been able to prove that we will not be lagging behind even an inch as far as adopting 5G technology is concerned". Bangladesh Telecommunication Regulatory Commission (BTRC) Chairman Shyam Sunder Sikder addressed the webinar as the special guest while BTRC Commissioner and Chief of 5G Guideline Committee AKM Shahiduzzaman was present as the guest of honor. Teletalk MD Md Shahab Uddin, Grameenphone CEO Yasir Azman, Robi's acting CEO M Riyaaz Rasheed, Chairman of AMTOB and CEO of Banglalink Erik Aas,

CEO of Huawei Bangladesh Taoguangyao and Country Manager of LM Ericsson (Bangladesh) Abdus Salam were present at the webinar and delivered speeches. TRNB President Rased Mehedi presded over the webinar while its General Secretary Samir Kumar Dey presented the keynote paper. Speaking on the occasion, BTRC Chairman Shyam Sunder Sikder said the process of launching 5G in the capital city by this year is at the final stage. To this end, the state-owned mobile operator Teletalk has started taking preparations, he said, adding, "Works related to formulation of a broadband policy is also underway. Before finalizing it, we will sit down with all the stakeholders and their views will be taken". BTRC Commissioner AKM Shahiduzzaman said the BTRC has already formed a committee comprising operators, telecom sector stakeholders and law enforcement agencies on the 5G issue. Work is underway to create a common guideline for mobile operators, which will contribute to the mass adoption of 5G, he said, adding "BTRC is working on allocating waves at comparatively low prices in consideration of the standards followed by different countries of the world. And any decision in this regard will be finalized in consultation with the operators". (September 25, 2021) risingbd.com

The Bangladesh Telecom Regulatory Commission (BTRC) in a statement said it only approves the IP based data services (Streaming Service, IP-TV, Video-on-Demand) for the licensed ISPs. Noting that the Internet Protocol Television (IPTV) is the process of broadcasting contents, aired on televisions, using the Internet Protocol Network, the statement said ISP operators approved by the BTRC for IPTV service could show the broadcasts of satellite TV channels approved by the Ministry of Information and Broadcasting only to their subscribers through the Internet. But required contract/approval/release paper must be taken from the concerned institutions for the promotion of each channel or program or content, it added. It has been noticed recently that some unscrupulous businessman is illegally displaying IPTV to the public buying domains or through Facebook or YouTube channels, which are not legally approved, the statement said. Such broadcasting without approval is "immoral and a violation of the Telecommunications Act", it said, adding the BTRC has already stopped 59 unregistered illegal IPTV. The statement also said that the ISPs licensed by the BTRC for the IP based data services are not involved in such (illegal) activities. (September 20, 2021) bssnews.net

Egypt

Egypt's National Telecom Regulatory Authority (NTRA) has inked a Memorandum of Understanding (MoU) with the Egyptian Competition Authority (ECA) to form a permanent joint committee which will develop a system for regulating free competition in the Egyptian telecom market. Announcing the development in a press release, the Ministry of Communications & Information Technology (MCIT) said the cooperation between the two bodies is designed to synergise their efforts at attracting more investment, while integrating work mechanisms related to regulation and supervision. Further, the pair are aiming to 'restrain monopolies that may negatively affect the telecom services rendered to citizens'. According to the MCIT, the joint committee will be responsible for developing frameworks for the cooperation between the two sides and will work to open new markets in the telecoms sector and predict and prevent economic practices leading to monopolies that may have negative effects on the market. Other mandates of the committee that were specifically mentioned include the restricting of new regulations or policies that may adversely affect competition in the sector.

(September 24, 2021) commsupdate.com

Egypt, the Arab world's most populous nation, will connect more than 60 million people living in rural areas with high-speed internet, according to the country's Communications and Information Technology Minister. "We want to improve internet connectivity for 60 million Egyptians living in about 4,500 villages by upgrading broadband infrastructure," Amr Talaat said at the International Co-operation Forum in the capital Cairo. "We plan to invest more than $360 million to connect one million households with fiber-optic

cables that will ensure youth can access the internet and thus the knowledge, training, and career opportunities offered by the digital world," he said. Internet penetration in Egypt was 57.3 per cent in January 2021, according to Data Reportal. The country of 103.3 million had 95.75 million mobile phone users. Greater connectivity in Egypt will also help the country's booming e-commerce sector and mobile economy. The country has invested more than $2 billion to increase average internet speeds in major cities to 42.5 megabytes per second from 6.5 megabytes per second, in two years. "Africa is considered the youngest continent on the planet, with about 60 per cent of its population under the age of 25. There is no more urgent or important topic than youth empowerment, entrepreneurship, and digital innovation," said Rania Al Mashat, the country's minister of international co-operation. "Creating a framework to support the young is vital; Africa's future depends on it," she said. Separately at the forum, Egyptian leaders stressed the importance of implementing agri-tech solutions to guarantee the continent's food security. Ensuring food security is particularly important for Egypt, which is the biggest wheat importer in the world. "The work we have done with the World Food Program, and how we have been able to work with farmers to move from more traditional ways of farming, from diesel-powered irrigation to solar, is a great example of co-ordination between local agencies and international partners," Ms. Al Mashat said. Calls for greater innovation in food security in Africa comes amid concerns that more than 100 million people on the continent face catastrophic levels of food insecurity, exacerbated by the impact of the Covid 19 pandemic.

(September 11, 2021) thenationalnews.com

Iran

The newly installed Minister of ICT says he expects the country's National Information Network (NIN) project to be complete within four years. A report cites Isa Zarepour as saying: 'After around two decades of foot-dragging, it is finally time to give the initiative one last push.' The NIN scheme was first proposed by the government in 2005, but work did not start until 2013. The aim is to establish a closed national intranet of locally made, government endorsed Islamic content, which will sit alongside the World Wide Web. Critics say, however, that the government could use it to replace the wider internet, effectively cutting off many citizens from the outside world.

(September 1, 2021) The Financial Tribune

Iraq

The Head of the Communications and Media Commission (CMC), Ali Moayad, said that 80% of the population in Iraq has internet access. Moayad spoke during the Al-Rafidain Center for Dialogue, saying, "we have 39 million users of telecommunications, and 80% of Iraqis have access to the Internet." "We have not reached an ideal state, and 4G service needs more work to reach stability due to the ISIS war." He added.

(September 5, 2021) shafaq.com

Nepal

Internet penetration in Nepal has reached 102 per cent of the country's population, according to a report of the Nepal Telecommunications Authority. The state-owned NTA prepared the report on the basis of population projection (2011-2030). The report was prepared by assuming that Nepal's population would be 29.87 million. As per the NTA report, almost 31 million population was connected to internet facility till the end of the last fiscal year. The report further states that mobile internet has the largest contribution to the internet penetration in the country. Till July 15, the contribution of mobile internet alone was 76.03 per cent, while more than 12.89 million population has access to 3G internet service. Among them, the users of Nepal Telecom are the largest contributors as their number is 10.04 million followed by 2.46 million Ncell users. The contribution of fixed broadband is 25.66 per cent with 700,285 users of ADSL and more than 727,000 FTTH internet users. Likewise, the number of 4G service users has increased in recent days. The NTA stated that the number of 4G users was almost 10 million till the end of the last fiscal year (15 July 2021). It is said that Nepal Telecom has 4.74 million 4G users and the number of NT users has increased sharply lately. Likewise, Ncell has more than 5 million 4G users while the number of 4G users of Smart Telecom is 166,000.

(September 13, 2021) thehimalayantimes.com

Oman

The Ministry of Transport, Communications and Information Technology (MTCIT) has released the second batch of information technology service standards under the accreditation program for information technology service providers. "MTCIT would like to announce the second phase of the accreditation program to allow the providers of these services to prepare for it. This phase includes standards in the following areas Managed Security Services and Professional Security Services," the Ministry said in a statement. The accreditation for these services will start in the first quarter of 2022. The service providers can find the published accreditation standards and the application process for the program on the Ministry's official website: For further inquiries and clarifications, you may contact the Accreditation Team at MTCIT through the email address MTCIT launched the IT Accreditation program at the end of 2019 to accredit IT service providers eligible to serve government administrative units. IT service providers are accredited based on national standards prescribed by MTCIT in line with the international best practices, the Ministry said. The IT services covered in the program include IT Consultation, Solution development and implementation, Information and cyber security, and Hosting services. The first phase covered a batch of two services: Security Assessment services and Cloud and Hosting services. (September 22, 2021) timesofoman.com

Pakistan

The number of 3G and 4G users in Pakistan reached 103.12 million by end-August 2021 compared to 101.59 million by the end-July 2021, registering an increase of 1.53 million, revealed Pakistan Telecommunication Authority (PTA) data. The number of cellular subscribers in Pakistan increased by 0.67 million to 185.57 million by end-August 2021 compared to 184.90 million by the end of July. Teledensity for cellular mobile increased from 84.41 percent by the end of July 2021 to 84.67 percent by end-August. The total teledensity increased from 86.55 percent by the end of July 2021 to 86.81 percent by end-August. Monthly Next Generation Mobile Service (NGMS) penetration stood at 47.05 percent by end-August 2021 compared to 46.38 percent in July 2021. Jazz's total count for 3G users stood at 7.438 million by end-August compared to 7.598 million by the end of July 2021, registering a decrease of 0.16 million. Jazz 4G user numbers jumped from 31.745 million by the end of July 2021 to 32.767 million by end-August. Zong 3G subscribers decreased from 4.204 million by the end of July to 4.046 million by end-August, while the number of 4G users jumped from 23.581 million by the end of July 24.099 million by end-August. The number of 3G users of Telenor decreased from 4.984 million by the end of July to 4.777 million by end-August. The number of 4G users jumped from 17.791 million by the end of July 18.333 million by end-August. Ufone 3G users decreased from 4.373 million by the end of July to 4.292 million by end-August. The number of 4G users of Ufone increased from 6.212 million by the end of July 2021 to 6.246 million by end-August. The PTA received 16,028 complaints from telecom consumers against various telecom operators, including (cellular operators, PTCL, LDIs, WLL operators, and ISPs) as of August 2021. (September 27, 2021) techjuice.pk

State-backed cellco Ufone has been named as the sole winner of the recent spectrum auction, with the provider purchasing an additional 2×9MHz in the 1800MHz band for the reserve prices of USD279 million. Sector watchdog the Pakistan Telecommunication Authority (PTA) noted that Ufone was the only company to submit an offer for the available spectrum, which included frequencies in the 1800MHz and 2100MHz bands. The decision by Ufone's three competitors – Jazz, part of Netherlands-registered group VEON, Norwegian-owned Telenor Pakistan and Zong, a subsidiary of China Mobile – sparked criticism of the auction process, particularly the pricing of the airwaves. Local daily cites PTA Chairman Amir Azeem Bajwa as saying that the auction could not be termed a failure as all providers were invited to participate and only those that needed the spectrum purchased it. Addressing the case for each of the trio that withdrew from the process, the official claimed that Jazz and Telenor currently have sufficient spectrum resources to meet their needs whilst Zong is involved in litigation regarding a portion of its spectrum allocation and 'they must be hoping to have it sooner or later'. The chairman went on to argue that the cost for the licenses was not high, claiming that the prices were lower than other countries in the region, naming Bangladesh and India as examples. Ufone is a wholly-owned subsidiary of fixed line incumbent Pakistan Telecommunication Company Limited (PTCL), in which the government has a majority interest whilst UAE-based Etisalat group holds a minority stake and management control. (September 13, 2021) dawn.com

The Islamabad High Court (IHC) has ruled in favor of sector watchdog the Pakistan Telecommunication Authority (PTA) in a dispute with cellcos Telenor Pakistan and Jazz over the price of their license renewals. The pair had challenged the PTA's decision to impose a last-minute price hike on their concessions in early 2019, shortly before the licenses were due for renewal. The watchdog had published its policy for the renewals in the same month that the licenses were due to expire and increased the cost to nearly USD450 million. By comparison, the PTA had charged state-backed provider Ufone USD291 million for the renewal of its concession in 2016. The IHC dismissed the appeal, accepting the PTA's argument that the setting of the license fee is at the regulator's discretion. Both Telenor and Jazz are reportedly planning to take the matter to the Supreme Court, but will continue to make payments to the regulator based on the PTA's new license fee. (September 2, 2021) ProPakistani

Qatar

The Communications Regulatory Authority (CRA) published the summary results report of its extensive audit of mobile networks that was conducted from September to December 2020 to assess the improvements of the Quality of Service (QoS) levels offered by the telecom Service Providers in Qatar; Ooredoo Qatar Q.P.S.C. and Vodafone Qatar P.Q.S.C. The audit measured some of the Key Performance Indicators (KPIs) of the services provided by the Service Providers, which are in line with the standards and conditions of the licenses granted to them by the CRA and the applicable regulatory framework. The audit covered mobile voice calls, Short Message Service (SMS), and mobile internet data services which include the service provided through the Fifth Generation (5G) network. The audit was conducted during the peak hours of working days on more than 55,000 samples that were collected from different areas in Qatar including main roads and highways, major pedestrian areas as well as several indoor locations. The CRA used its QoS systems in addition to the latest versions of devices and smartphones, to obtain results

that reflect the experience of mobile telecom consumers in Qatar. CRA affirms that the purpose of the audit was not to identify the best network or do a comparison between the telecom Service Providers in Qatar. The CRA emphasizes that the audit's findings should not be used for any purpose that does not serve the required value of the report, such as promoting the best telecom Service Provider or taking a part or parts of the report to be used

in a way that it may abuse another telecom Service Provider, or to use the audit's findings in a way that may be misleading or inaccurate considering the scope of the audit. The summary of the results report of QoS audit of mobile networks 2020 is available via the below link: https://www.cra.gov.qa/en/document/quality-of-service-mobile-network-audit-for-2020.

(September 29, 2021) gulf-times.com

Saudi Arabia

The Communications and Information Technology Commission (CITC) published a public consultation on Fixed Radio Service: Frequency Allocation and Use Regulation for Wireless Links. CITC seeks to re-allocate all frequency bands used in wireless links in (point-to-point and point-to-multipoint), and to update the licensing mechanism of the wireless links in fixed radio service; in order to enhance spectrum efficiency and avoid any harmful interference between users. This pubic consultation document shows the proposed changes to the frequency channel plans used in wireless links, and includes the regulations for bands identified for these services. In addition, the document includes the proposed process to re-farm some of those bands to align with the regulations and ITU recommendations. CITC has revealed its intention to adopt flexible regimes in assigning wireless links such as license exempt and light license. The consultation is seeking inputs on the proposed regimes of licensing in some spectrum bands including the 28GHz and 80GHz. CITC believes that the proposed changes will play a valuable role in achieving the optimum frequency usage, reducing congestion of the allocated spectrum bands, enabling new technologies, and satisfying the market needs. CITC is inviting all interested parties nationally and internationally, including telecom and technology providers, industrial stakeholders, public entities, members of the public as well as consumers of telecom and digital services, to provide feedback by 21 October 2021. (September 26, 2021) citc.gov.sa

The Communications and Information Technology Commission (CITC) has launched the second phase of the local roaming service, maintaining telecommunication services to 2,887 villages and rural areas in the Riyadh and Qassim regions. Last month, CITC launched the first phase of the service in Asir. The service will cover 2,315 villages in Riyadh and 572 in Qassim, the commission added provided by the Kingdom's three telecommunication providers, Saudi Telecom Company (STC), Etihad Etisalat Company (Mobily), and Mobile Telecommunications Company Saudi Arabia (Zain). The second phase comes within scheduled plans to complete the local roaming service in all villages and remote areas in various regions of the Kingdom by the end of 2021. The service enables service providers to benefit from the telecommunications networks, help meet the requirements of beneficiaries, support service providers to reach the most significant number of beneficiaries while ensuring an increase in the number of available options in 21,000 villages and remote

areas across the Kingdom's regions by the end of 2021. The service aims to raise competitiveness, improve service quality and user experience, support the digital transformation of villages and rural areas, achieve its objectives, and provide general services. (September 16, 2021) citc.gov.sa

In August, the Communications and Information Technology Commission (CITC) carried out more than 1,500 field inspection tours on all telecom, communication, and technology service providers, postal service providers, and delivery applications. The inspection tours were to ensure the application of terms of service provisions, the rights of users, and the conditions for providing services. The commission confirmed that inspection tours by its supervisory teams are to detect violations, detect violating devices that cause radio interference and take adequate mitigative measures against all violations to ensure the quality of services to users and beneficiaries benefitting from communications and information technology services in the Kingdom. The commission indicated that the tours included shopping centers, shops and telecommunication branches, and service providers in various regions as part of its framework to strengthen user protection mechanisms in the sector. (September 8, 2021) citc.gov.sa

The Communications and Information Technology Commission (CITC) has approved the update of technical specifications for communication and information technology devices and applications to keep pace with the rapid technological development and facilitate the release of devices and the issuance of conformity certificates. The commission was keen on raising the quality and efficiency of devices manufactured or imported to the Kingdom by aligning them with the standards and specifications approved by the Saudi Standards, Metrology, and Quality Organization. The commission also specified the technical and regulatory requirements for communications and information technology devices to allow users to access the latest gadgets and conform to the standards issued by the International Telecommunication Union and relevant international organizations. The specifications are the technical basis for the communications and information technology devices services that the authority provides. By approving the technical specifications, the commission ensures the compatibility of the devices used in the Kingdom with its network operators, distribute the latest communication and information technologies and applications, verify the quality and

safety of devices used in the Kingdom according to the highest standards. In addition to determining the frequency bands allowed to be used, according to the National Frequency Spectrum Plan and international agreements. The commission's specifications review the technical characteristics of most communications technologies in terms of frequencies and technical standards, specify safety standards and electromagnetic requirements for

devices, and also specify through the technical specification No. (GEN002) the mandatory minimum for mobile phones, routers, and Internet of Things devices approved by the authority in terms of hardware-supported technologies and the frequency bands, in addition to mandatory voice services technologies (VoLTE, VoWiFi) and mandatory emergency services technologies (CBS, AML). (September 6, 2021) citc.gov.sa

United Arab Emirates

The Telecommunications and Digital Government Regulatory Authority (TDRA) has announced that the number of the UAE's national portal users reached 8.5 million during the first half of 2021. Users increased by 42% compared with last year. TDRA stated that this increase is due to the great efforts exerted to develop the portal and provide online services and information according to the current circumstances. According to the results, the portal is the UAE society's first source of services, information, particularly those related to the COVID-19 pandemic. The UAE's national portal has employed automatic learning tools to provide a unique experience focusing on the customer. It uses advanced research algorisms that can identify entity names (Named Entity Recognition – NER). Named entities may be individuals, organizations, places, etc. This mechanism provides users with accurate search results designed for the keywords entered by the user. Search results include images and summaries quoted from the search topic. TDRA indicated that updates on the portal included the launch of a new page for the statistics portal users, which is automatically read from Google Analytics, and provides real-time data based on application programming interfaces

(APIs). Updates included also launch of the live chat bot (around the clock 24/7) to answer customer queries automatically, using artificial intelligence techniques. Users can ask questions in the form of a chat, while the virtual assistant answers these questions to help the user find the searched topic. Updates on the portal included enhancing content related to digital transformation of the UAE, government efforts to improve services, co-creation, and design of public services. Updates included also enhancing content related to the digital participation, society engagement in decision-making, economy and investment, and government budget, as well as continuous updates of the COVID-19 page. The portal team information related to the UAE National Agenda and the role of the UAE's National Committee on SDGs. Statistics showed that most viewed pages are those elated to Travel amid COVID-19, Visas, Quarantine procedures, and Vaccines against COVID-19 in the UAE. It is noteworthy that the UAE's national portal consists of four main sections; they are information and services, about the UAE, eParticipation, and media.

(September 1, 2021) tdra.gov.ae

REGULATORY ACTIVITIES BEYOND THE SAMENA REGION

Australia

Applications are now being accepted by the Australian Communications and Media Authority (ACMA) for its upcoming auction of 5G-suitable spectrum in the 850MHz/900MHz band. In a press release regarding the development, the regulator chairperson Nerida O'Loughlin said the allocation of 5G-optimised spectrum is expected to support new and existing operators to better deliver services across regional, rural and remote areas of the country, as well as in major population centers. With the ACMA planning to auction off a total of 70MHz of paired spectrum in the 850MHz/900MHz band, the application period will run until 21 September, with the sale itself scheduled to begin in late November. As previously reported by CommsUpdate, earlier this month the Communications Minister Paul Fletcher confirmed that allocation limits will apply to the amount of low-band spectrum that mobile network operators (MNOs) can acquire in the upcoming frequency auction. Bidders will be restricted to holding no more than 82MHz of licensed sub-1GHz spectrum in 'the most populous areas of Australia', while to encourage investment in the more sparsely populated regional areas, a slightly higher limit of 92MHz of sub-1GHz spectrum has been set.

(September 1, 2021) commsupdate.com

Azerbaijan

The Ministry of Transport, Communications and High Technologies has extended the license agreements of mobile network operators (MNOs) Azercell, Bakcell and Azerfon (Nar) for a period of ten years. 'These agreements include licenses for the types of activities for mobile communication services – technological standards 2G (GSM), 3G (UMTS) and 4G (LTE),' the Ministry announced in a brief statement. 'The issuance of appropriate licenses to mobile operators will allow them to provide their subscribers with more efficient, high-quality and professional services using new generation technologies and technological standards,' the Ministry noted, adding: 'Along with this, the issuance of licenses will contribute to the development of a sustainable and secure digital infrastructure in the country, as well as to the acceleration of digital transformation.'

(September 10, 2021) commsupdate.com

Brazil

The National Telecommunications Agency (Agencia Nacional de Telecomunicacoes, Anatel) has confirmed that it approved the notice for the country's long-delayed 5G auction on 24 September, paving the way for the spectrum sale to commence later this year. Would-be bidders must submit their applications by 27 October and 'price proposals' will be analyzed on 4 November. The 5G auction will include frequencies in the 700MHz, 2.3GHz and 3.5GHz bands, as well as 26GHz millimeter wave (mmWave) spectrum. All spectrum bands will be divided into national and regional blocks – apart from the 2.3GHz band, which will be solely available on a regional basis. As per the terms of the auction, winning bidders must offer 5G services in all state capitals and the Federal District (Distrito Federal) by 31 July 2022.

(September 27, 2021) commsupdate.com

Chile

Chilean telecoms watchdog the Department of Telecommunications (Subsecretaria de Telecomunicaciones, Subtel) has announced that the licenses it awarded in February this year for 5G spectrum in the 700MHz, 1700MHz and 3.5GHz ranges have now been approved by the Comptroller General of the Republic (Contraloria General de la Republica, CGR), enabling the licensees to begin utilizing those airwaves. Awards for spectrum in the 26GHz band are still awaiting approval, however. Diario Financiero writes that the licenses were initially expected to be greenlit by the CGR in May, but were delayed due to the resignation of the Undersecretary of Telecommunications Pamela Gidi in June 2021. With the appointment of a new undersecretary that month, the official withdrew the licence awards for review before re-submitting them in August. Commenting on the development, the new Undersecretary of Telecommunications, Francisco Moreno, was quoted as saying: 'The fifth generation of mobile communications technology not only represents a substantive leap in terms of performance with respect to ... 4G networks, but its deployment will have

an effect transformational for the country by allowing the digitization of different processes such as remote medicine, smart cities, intelligent transportation, among many others.' As noted by TeleGeography's GlobalComms Database, Subtel awarded spectrum for 5G services via a series of auctions at the start of the year, through which operators secured spectrum as follows:

- WOM – 2×10MHz in the 700MHz band, 2×15MHz in the 1700MHz band, 50MHz in the 3500MHz band and 400MHz in the 26GHz band
- Entel – 50MHz in the 3500MHz band and 400MHz in the 26GHz band
- Movistar – 50MHz in the 3500MHz band
- Claro – 400MHz in the 26GHz band.

(September 28, 2021) commsupdate.com

Czech Republic

The Czech Telecommunication Office (CTU), plans to flex its muscles and impose an obligation on incumbent mobile network operators (MNOs) O2, T-Mobile and Vodafone to allow MVNOs access to their wholesale mobile services at a regulated price amid concerns that there is still limited competition in the overall mobile market. It is understood the regulation would apply after confirmation of notification by the European Commission – expected to be completed by mid-2022. A CTU spokesperson is quoted as saying: 'The CTU found the market for wholesale access to mobile services suitable for ex-ante regulation and found companies with common significant market power'. The regulator recently completed an analysis of the mobile data market and found 'a number of failures', not least that the 'wholesale price of data per MB transferred in the period 2015 to 2020 was always higher or at least equal to the retail price'. It reported that in 2020, the average retail price of 1MB of data stood at approximately CZK0.05 (USD0.002), while the average wholesale price was CZK0.09 (both prices excluding VAT), making it difficult for MVNOs to operate profitably and offer their customers similar prices for data bundles as can be offered by the big three MNOs. In response, Vodafone accused the CTU of not respecting the European Commission decision from July 2019 when it refused to regulate the mobile market in the Czech Republic. Meanwhile, critics argue that despite talking tough, the regulator has again ignored the elephant in the room, namely the sharing of mobile networks between O2 (incl. CETIN) and T-Mobile. (September 27, 2021) Daily The Prague Morning

Djibouti

The government of Djibouti has approved a draft law outlining the terms and conditions for the legal sale of a partial stake in the country's state-owned fixed and mobile operator Djibouti Telecom to a 'first-rate strategic partner'. In a statement, the government stated that opening up the PTO's share capital is a sign of its determination 'to implement a proactive policy to modernize the country's economy, increase global competitiveness, and optimize the governance and management of state-owned enterprises (SOE)'. The government will now seek to appoint international advisors to oversee the process which is expected to go ahead later in the year. As previously reported by CommsUpdate, last month Djibouti set a six-week deadline for bidders to express an interest in purchasing a 40% stake in the country's incumbent fixed and mobile operator. In documents published at the time, the government set a deadline of 16 September 2021 for expressions of interest (EoI), but also warned would-be suitors that it is not averse to introducing competition in the near future. In the statement it confirmed: 'The state of Djibouti does not consider the monopoly as an intangible dogma … In the context of a development that has been experienced by the vast majority of African and emerging countries, the company must prepare to face competition from new entrants and the liberalization of the sector, particularly in the cell phone sector.' (September 7, 2021) commsupdate.com

Ecuador

The Ministry of Telecommunications and Information Society (Mintel) and the Inter-American Telecommunications Commission (CITEL) have signed a memorandum of understanding to extend connectivity in the country. Under the agreement, CITEL – a body of the Organization of American States – will provide technical advice to connect rural and inaccessible areas under Ecuador's Digital Agenda strategy to reduce the digital divide. Speaking during the online signing ceremony on 21 September, telecoms minister Vianna Maino said the agreement would not only deliver improved connectivity but also provide wider social benefits, such as education, health, training and entrepreneurship. The minister also highlighted the progress made during the first 120 days of President Lasso's administration, including the expansion of mobile connectivity to 14 rural parishes, the activation of 4G mobile services in 285 locations and the deployment of 887 free Wi-Fi access points nationwide. (September 29, 2021) commsupdate.com

Estonia

The Ministry of Economic Affairs and Communications has still not decided how many licenses will be awarded in the much-delayed auction of 3.5GHz (3410MHz-3800MHz) spectrum. The issue will not be settled until an amendment to the Electronic Communications Act is passed which will ban the use of equipment from suppliers from non-democratic countries. This will rule out systems from vendors such as Huawei and ZTE of China. Estonia's parliament, the Riigikogu, is set to vote on the security amendments later this month. Laura Laaster, a spokesperson for the ministry, is cited by ERR as saying: 'We can talk about the number of permits once the security regulation has been adopted.' The 3.5GHz auction had previously been derailed due to legal proceedings. Estonia's Consumer Protection and Technical Regulatory Authority (Tarbijakaitse ja Tehnilise Jarelevalve Amet, TTJA) originally announced the sale of three 3.5GHz licenses in early 2019. The planned auction was cancelled in April that year, however, after IoT and wireless internet provider Levikom challenged the decision to only award three concessions, saying that the move favored the three incumbent cellcos and would hamper competition. When the TTJA said in June 2020 that it planned to rejig the sale to include four permits, operators complained that they would be left with insufficient spectrum to support a full speed 5G network.

(September 10, 2021) commsupdate.com

Ethiopia

A request for proposal (RFP) for Ethiopia's second new full-service telecommunications license – 'License B' – has been published by the Ethiopian Communications Authority (ECA). It has been confirmed that the concession on offer will include permission to offer 'mobile financial services', as well as 'additional spectrum allocation', while it also has 'revised pre qualification criteria to include participation from a wide range of international and national telecommunications operators. Would-be bidders have until 20 December 2021 to respond to the RFP, with the ECA noting that the final selection will be announced following a thorough evaluation of the proposals according to the pre-defined criteria. The license itself is expected to be issued in January 2022. Commenting on the matter, Eng. Balcha Reba, Director General of the ECA, said: 'The goal of liberalizing our telecoms sector has always been to drive competition and attract greater private sector investment as a key part of Ethiopia's digital transformation. Following our successful first license issuance earlier this year to one of the world's largest international telecoms consortia, we have continued with our mission and now want to encourage more telecoms operators, of all sizes, to be part of this exciting opportunity.' As previously reported by CommsUpdate, in May 2021 Global Partnership for Ethiopia (Safaricom Telecommunications Ethiopia) was named as the winner of the country's first new telecoms concession, after agreeing to pay USD850 million for it; the 15-year license became effective from 9 July 2021 and the new operator is expected to launch a commercial service in 2022.

(September 29, 2021) commsupdate.com

Finland

The Ministry of Transport and Communications (Liikenne-ja viestintaministerio, MoTC) has announced its intention to amend the Act on Broadband Construction Aid to continue to comply with the EU's state aid rules. The Act, which covers the provision of service in areas where no commercial broadband is expected to be made available before 2025, entered into force on 1 January 2021 and is governed by the EU General Block Exemption Regulation (GBER). However, in July the EC extended the scope of the GBER, with these amendments entering into force last month. In a press release regarding the planned changes to the Act, the MoTC noted that, in a change to previous practice, the updated EU regulation has separate requirements to support fixed and wireless networks, while minimum speed requirements for eligible high speed communications connections have also increased. In addition, the regulation contains more detailed provisions on such things as the mapping of the planned project area, public consultation and the assessment of competitive effects. Highlighting one notable change in particular, the regulator said that, unlike its current national broadband aid scheme, the updated program will no longer be able to support the construction of fixed-wireless access for 5G networks. According to the GBER, aid cannot be provided to 5G networks in areas where 4G or 5G networks already exist, and the MoTC noted that in Finland, 99.9% of the population has access to 4G networks. With the changes required by EU state aid legislation needing to be implemented no later than 3 February 2022, opinions on the draft Act and Decree are being sought by the MoTC by a deadline of 27 September 2021. Further, the ministry noted that 'due to the funding applied for the broadband program from the recovery instrument, the act will be treated as a budget act', with this meaning the proposal must be submitted to the Finnish parliament no later than the end of October.

(September 21, 2021) commsupdate.com

France

French media regulator the CSA has launched a new public consultation on the development of interactive services in the country's digital-terrestrial TV platform. The consultation will cover services that can be delivered to TVs via an internet connection, allows users to access functionality that can be considered complementary to linear DTT channels, such as video-on-demand. The CSA said that the consultation was followed on from authorizations that took place in the spring, which were intended to kick off tests of the first services. The regulator is seeking contributions from interested parties in the various categories of interactive services that could be authorized, and views on the requirements and resources in terms of frequencies and channel numbers that might be required to bring projects to realization. The CSA's consultation is opening as another one, launched by the country's culture ministry on planned legislation that could impact on thematic channels, closes. The planned 'cable-satellite' decree outlines obligations that must be undertaken by channels distributed by cable and satellite, and comes alongside parallel legislation covering SVOD services and DTT. The new rules are likely to place additional burdens on thematic channels to finance French and European production, obliging them to devote 16% of revenues to creation. Groups representing French thematic channels are protesting against what they see as an additional blow on top of downward pressure on their revenues from telecom operators and other distributors, the impact of the pandemic and competition from streaming services. Thematic channels group ACCeS, which has just added new members Histoire TV and TV Breizh from TF1 Group, told financial daily Les Echos that the legislation risked sacrificing thematic channels for the sake of uniformity of rules. (September 19, 2021) digitaltveurope.com

Germany

Germany's federal cybersecurity watchdog, the BSI, is conducting a technical examination of a mobile phone manufactured by China's Xiaomi Corp, a spokesperson for the interior ministry told Reuters on Wednesday. The spokesperson did not provide further details on what kind of examination the agency was carrying out. Lithanua's state cybersecurity body said last week that Xiaomi phones had a built-in ability to detect and censor terms such as "Free Tibet", "Long live Taiwan independence" or "democracy movement". Xiaomi said it was engaging a third-party expert to assess the allegations by Lithuania that its smartphones carry built-in censorship capabilities. The company was not immediately available for comment on the German probe. Xiaomi emerged as the top smartphone vendor in Europe for the first time in the second quarter of 2021, shipping a record 12.7 million units there, research firm Strategy Analytics said. Along with other Chinese rivals on the Android operating system, Xiaomi has enjoyed a surge in market share following the enforcement of U.S. sanctions against Huawei Technologies Co Ltd, which crippled its once-dominant smartphone division. Germany has had security concerns about using technology from Chinese companies such as Huawei in its 5G network rollout after U.S. calls for banning the company, saying its equipment could be used to support Chinese state spying.
(September 29, 2021) zawya.com

Ghana

The Minister of Communications and Digitalization, Ursula Owusu-Ekuful, has announced that the delayed national SIM card re-registration exercise will begin on 1 October and run until 31 March 2022, after which date all unregistered SIMs will be blocked. Speaking at a press briefing, Mrs. Owusu-Ekuful explained all existing mobile network subscribers will be required to provide their name, date of birth, residential address – or business address and Certificate of Incorporation in the case of a company – and an identification document. Only the National Identity Card (Ghana Card) issued to an individual shall be used for registration of SIM cards held by citizens, foreign residents and foreigners staying in Ghana for more than 90 days. In the case of foreigners staying for less than 90 days, a valid passport or other travel document is required. Individuals will be permitted to register a total number of ten SIM cards across all networks, although foreigners will be limited to three. Outlining the aims of the registration campaign, Mrs. Owusu-Ekuful commented: 'SIM registration, when undertaken correctly as we intend to do, will reduce or eliminate fraudulent and criminal activities, help authorities ascertain the accurate number of valid and accurate SIMs on the networks, enable operators to build better demographics of their customer base and help them develop products and services to suit the various groupings.' The minister also argued the initiative will provide the National Communications Authority (NCA) with more accurate data to improve regulation of the industry, while greater confidence in the telecoms sector will enhance economic growth through the adoption of e-government services and other private mobile-based digital solutions. 'It will minimize mobile money fraud and support financial inclusion across the vulnerable sectors,' the Minister added.
(September 6, 2021) commsupdate.com

India

The Cabinet has approved a reform package for the beleaguered telecoms industry, which the government says will promote healthy competition, encourage investment and reduce the regulatory burden on service providers. The package comprises nine structural reforms, five procedural reforms and four measures to address liquidity requirements of service providers. The overhaul tackles a number of the industry's long-standing grievances, such as the definition of Adjusted Gross Revenue (AGR) – which will be altered to exclude non-telecom revenue – whilst relieving some of the immediate financial pressures on operators by providing a moratorium on payments. In an interview with the paper, Telecom Minister Ashwini Vaishnaw dismissed the suggestion that the government's decision to approve the package was triggered by the threat that Vodafone Idea (Vi) might be forced to close, narrowing the mobile market to just two private players and one state-owned operator. Instead, the official said that the government was looking to address the 'underlying malaise' that was restricting investment and preventing the 'massive capital injection' needed to meet the administration's goals regarding the narrowing of the digital divide. In a similar vein, a public statement from the government on the matter stressed that the package will 'boost 4G proliferation, infuse liquidity and create an enabling environment for investment in 5G networks. The package encompasses the rationalization of AGR – the figure upon which most of the fees paid by telcos are based – and bank guarantee (BG) systems, the former by excluding revenue from non-telecom sources and the latter by reducing BG requirements against license fees and similar charges by 80% and removing the requirement for multiple BGs for different service areas. In a similar vein, from 1 October 2021 interest rates charges for delayed license fee and spectrum usage charge (SUC) payments will be levied at the Securities and Exchange Board of India's (SEBI's) marginal cost of lending rate (MCLR) plus 2%, rather than the current MCLR plus 4%, with interest to be compounded annual rather than monthly, whilst penalties and interest on penalties for such have

been removed. Regarding future spectrum auctions, meanwhile the following changes are to be made: no BGs will be required to secure instalment payments; the duration of spectrum licenses will be extended to 30 years from 20, with providers able to return spectrum after ten years; no SUC will be charged on frequencies purchased in future auctions; and spectrum sharing is to be encouraged by the removal of the additional 0.5% SUC on shared spectrum. Spectrum auctions will also be held in the final quarter of each financial year. With an eye on improving ease of doing business and increasing investment, the reforms will eliminate red tape in some areas. To that end, operators will be permitted to increase foreign direct investment (FDI) to 100% through the automatic route, requirements for customs notifications regarding wireless equipment will be replaced with a simple self-declaration and the Standing Advisory Committee on Radio Frequency Allocation (SACFA) clearance requirements will be eased so that providers pay submit data to an online Department of Telecommunications (DoT) portal. Elsewhere, customer registration will be streamlined with the use of app-based user identification (referred to as 'know your customer' or KYC) permitted, the charge for completing electronic KYC reduced to INR1 (USD0.014) and the removal of the requirement to renew KYC when changing subscription type (i.e. post-paid to pre-paid or vice versa). Similarly, customer acquisition forms will be replaced with digital storage of data. Finally – and perhaps most importantly – the government green-lit an option for operators to defer for up to four years payments on dues arising from the Supreme Court's October 2019 decision on AGR and dues for spectrum purchased at auction before 2021. The Net Present Value (NPV) of the dues will be protected, however. Service providers will be given the option to pay the interest arising from such deferral by way of equity and to potentially convert the due amount by equity at the end of the moratorium/deferment period – guidelines for which will be finalized by the Ministry of Finance.

(September 17, 2021) The Economic Times

Ireland

A veto decision blocking Irish regulator the Commission for Communications Regulation (ComReg) from adopting proposed regulation related to the market for retail fixed telephony services and the corresponding wholesale markets in Ireland has been issued by the EC. According to the European agency, it considers that the proposed measures 'would have led to unnecessary continuation of regulation in a fixed voice telephony market'. In a press release, the EU claimed that ComReg's proposed definition of the product market was 'not sufficiently supported by the evidence presented (in particular on the

constraints exerted by mobile on fixed voice calls)', while it argued the Irish regulator had 'inappropriately delineated the geographic market'. Further, the EC said it considered that, with the market tending towards effective competition, the analysis proposed by the Irish regulator 'is not sufficiently forward looking', while adding that it was 'insufficient to conclude that the historic incumbent still holds significant market power and would therefore be in a position to behave independently of competitors and ultimately end users in this market'. For its part, ComReg has issued a statement noting the EC's 'Withdrawal Decision', in

which it said that having considered its content and implications, it aims to provide a further update 'in due course, as appropriate'. Meanwhile, the regulator noted that, as it has not yet adopted an updated decision with respect to its analysis of the Retail Fixed Telephony Service ('RFTS') and wholesale Fixed Access and Call Origination ('FACO') markets, both its 2014 RFTS Decision and 2015 FACO Decision remain in full effect.

(September 22, 2021) commsupdate.com

Irish communications regulator the Commission for Communications Regulation (ComReg) has issued a draft decision under which it has proposed a further extension of its COVID-19 temporary licensing framework – under which licenses are currently due to expire on 1 October 2021. In short, ComReg has proposed that the temporary licensing framework will be extended by the implementation of a 'Further Temporary ECS License (No. 3)', for a period of up to three calendar months. Meanwhile, there will be scope

for one final renewal for a further period, though it has been stipulated that that secondary extension will see temporary concessions expire no later than 1 April 2022. Of note, in publishing its draft decision ComReg said that it expects this to be its final proposal to put in place a further temporary licensing framework, suggesting that there have been 'significant changes in the prevailing circumstances relevant to any further temporary licensing framework'; these, it said, included the government having set out its plan for the final phase of its response to the COVID-19 pandemic in August 2021. Meanwhile, noting the importance of consulting close to the expiry date of the existing licensing framework, and with a stated aim of 'progressing matters expeditiously due to the nature of the Temporary Situation', ComReg is employing a greatly accelerated consultation process, with submissions requested by a deadline of 13 September 2021.

(September 9, 2021) commsupdate.com

Isle of Man

The Isle of Man's Communications and Utilities Regulatory Authority (CURA) has extended the consultation on plans for the sale of spectrum in the 700MHz and 3.6GHz bands. In confirming it was pushing back the deadline for responses to 15 September 2021, the regulator said it had done so following a formal request for a one-week extension. According to the CURA, while it was of the opinion that the original deadline 'allowed sufficient time for respondents to consider its preliminary views and compile their responses to the issues raised', it said

it had opted to grant the extension 'having considered the facts that were set out in the request'. Previously, in July 2021 the CURA had published 'Document 20/21 Consultation on Multi Band Spectrum License Award – Information Memorandum', in which it set out its preliminary views on the processes for offering up new spectrum licenses. Included in the plans were: details of the spectrum to be awarded; the timescale of the sale process; and the proposed auction rules.

(September 10, 2021) commsupdate.com

Kyrgyzstan

The State Communications Agency (SCA) under the Ministry of Digital Development has completed an auction of wireless spectrum in the 2300MHz TDD band covering the capital city Bishkek, raising a total of KGS1.01 billion (USD12 million) in winning bids, up from a starting bid value of just KGS31 million. The SCA's announcement on its website confirmed that all three bidders – Kyrgyzstan's main national cellcos MegaCom (registered as Alfa Telecom), Sky Mobile (Beeline) and Nur Telecom (O!) – secured licenses. MegaCom won Lot 1 (1×40MHz bandwidth, 2300MHz-

2340MHz) with a bid of KGS296.1 million. O! won Lot 2 (1×20MHz, 2340MHz-2360MHz) for KGS353.2 million. Beeline won Lot 3 (1×40MHz, 2360MHz-2400MHz) for KGS360.1 million. TeleGeography's GlobalComms Database shows that the SCA's other recent 2300MHz TDD license auctions held in March 2021 (national scope excluding Bishkek and second city Osh, won by MegaCom) and June 2021 (Batken, Talas and Naryn regions only, won by O!) raised comparatively small amounts, KGS117 million and KGS17 million respectively. (September 30, 2021) commsupdate.com

Liberia

The head of the delegation, The Minister of Posts and Telecommunications and Chair of the Governing Board of the Universal Access Fund, Cllr Cooper W. Kruah Sr. signed an agreement on behalf of the Government of Liberia with a company believed to be a giant telecommunication service provider in Ghana

to boost rural telecommunications access in Liberia. This paper has reliably gathered that on September 16, 2021, the Chairman of the Board of the Universal Access Fund, Cllr. Cooper W. Kruah Sr. along with a high power delegation left for Ghana a week ago to include Chairman of the Project Implementation Unite

(PIU), Israel M. Akinsanya, Project Manager Mr. James Lynch Monbo, and Chair on the House Committee on Posts & Telecommunication, Dr. Isaac Roland. among others were part of the signing ceremony in Ghana over the weekend. Report also gathered that, Mr. Richard Hlomador the Executive Chairman for K-Net, signed on behalf of the company to construct telephones towels in unserved and undeserved location in rural Liberia in fulfillment of one of President Weah's Pro Poor Agenda to bring essentials services to the people of Liberia. K-Net is believed to be the service provider in Ghana that help to transform the country from analog to digital Television broadcast. In broadcasting the company operate a digital terrestrial TV network on behalf of the government of Ghana as well as a direct to home TV network for private TV broadcasters within Ghana and neighboring West African Countries. Recently, The Universal Access Fund endorsed the implementation of the proof of concept designed to bring telecommunication closer to the people of Liberia irrespective of their location to have access to telecommunications, to make and receive calls, receive mobile money and other remittances. Currently, the proof of concept project under the Universal Access Fund program is being carried out in Perlunken, Grand Kru and Gbankaborquiota in Gbarpolu Counties among others. According to report, Minister Kruah praised President George. M. Weah for his support to the process and also praised the efforts of the Chairman of the Project Implementation Unite (PIU), Mr. Israel M. Akinsanya, Project Manager, Mr. James Lynch Monbo and all others who are working around the clock to make sure that this project succeeds for all Liberians.

(September 25, 2021) allafrica.com

Liberia's de facto fixed line telecoms monopoly Liberia Telecommunications Co (LIBTELCO) has been granted a five-year tax break by the country's lower house, the House of Representatives. On 2 September 2021 the chamber voted overwhelmingly in favor of passing the 'Act to award Tax Incentives to the Liberia Telecommunications Corporation (LIBTELCO) as a Government Owned Entity'. Only three members of the House abstained, arguing that the Act should have been sent to committee first, in order to carry out an in-depth cost analysis before allowing its passage. The Observer newspaper reports that the Act will now 'be engrossed and transmitted to the Liberian Senate for occurrence upon resumption or work hopefully in October'. According to TeleGeography's GlobalComms Database, in October 2020 national regulator the Liberia Telecommunications Authority (LTA) issued a mobile network services license to state-owned LIBTELCO, allowing it to offer GSM-based services. The Monrovia-based company has been focusing on the deployment of its fiber-optic network to homes, businesses and educational institutions, but will now be able to join incumbent operators Lonestar Cell-MTN and Orange Liberia in the domestic market, offering a range of voice and mobile data services. In August 2020 the House of Representatives voted to amend the Telecommunications Act of 2007 to expand the functions of LIBTELCO to become a GSM operator. The report noted that the amendment effectively expanded the telco's functions and role as a 'revenue operator, to contribute towards the national budget'. The committee had concluded: 'The amendment of those provisions of the Telecommunications Act of 2007 as cited herein will enable the Government-owned Corporation 'LIBTELCO' to provide world-class telecommunications products and services at cheaper, affordable prices for all Liberians that will enable growth of various sectors, such as education, healthcare, banking, energy and serving the masses, at large, for a sustainable economic growth of our society.' (September 5, 2021) commsupdate.com

Malaysia

Malaysia's government highlighted significant gains in connectivity since implementing a National Digital Infrastructure Plan (Jendela) in September 2020, with mobile broadband speeds increasing and LTE coverage expanding. In a translated statement, the Malaysian Communications and Multimedia Commission (MCMC) noted average mobile broadband data rates increased from 25Mb/s to 29.1Mb/s at end-August, while 4G coverage in populated areas increased from 91.8 per cent to 94 per cent. It noted the number of premises covered by fiber-optic networks rose 26.5 per cent to 6.3 million. The government unveiled the national plan in August 2020. Phase 1 involves deploying up to 1,661 new towers in urban and rural areas. MCMC stated the connectivity gains were driven by strong support from state governments, local authorities and cooperation by the industry, and the plan achieved all quarterly targets. The agency noted LTE coverage was strengthened by a mandate to phase out 3G networks by end-2021, freeing up spectrum for 4G services. Phase two of the program involves deploying a single 5G network nationwide: Ericsson is contracted to build and manage the wholesale infrastructure.

(September 30, 2021) mobileworldlive.com

Malta

Fixed broadband and mobile subscriptions in Malta recorded growth in the year to 30 June 2021. The latest quarterly report from the Malta Communications Authority (MCA) highlights a 4.2% annual rise in cellular subscriptions to 642,060, including a 7.8% increase in contract users to 267,033. The fixed broadband segment saw customer numbers climb 4.3% in twelve months to 217,862 at end-June 2021, with fiber-to-the-home (FTTH) subscriptions jumping 30.4% to 41,292 and DOCSIS 3.1 cable connections up 4.3% at 105,496. Fixed voice subscriptions were stable year-on-year at 258,790, with 82.2% of voice lines now taken as part of a bundle with other services, up from 78.3% as of June 2020. (September 21, 2021) commsupdate.com

The Communications Authority (MCA) has announced that Mob5G.net Malta has requested an assignment of spectrum in the 1800MHz and 2.5GHz bands following a call for expressions of interest. The regulator will now assess whether the firm meets the qualification criteria before deciding on any spectrum allocation. Six paired 5MHz channels in the 1800MHz band and five unpaired 5MHz channels at 2.5GHz are currently unassigned. Earlier this year Mob5G.net was granted temporary trial licenses in the same frequency ranges. Malta's wireless market is home to three players: Epic, GO and Melita.

(September 1, 2021) commsupdate.com

Mexico

The telecommunications regulator IFT said that it had authorized the plan for U.S.-based Spanish-language broadcaster Univision to acquire the content business of Mexico's Grupo Televisa in a deal to create a new company. The two companies in April announced a plan to create a new firm called Televisa-Univision, which will feature Spanish-language video content from both broadcasters, including soap operas known as telenovelas, sports and movies. The IFT said in a statement its analysis did not find anti-competitive effects. "No anti-competitive effects derived from the transaction are expected in these coinciding activities of Univision Holdings and Grupo Televisa, largely due to the marginal participation of Univision Holdings in Mexico," the IFT said. The transaction, partially financed by a $1 billion Series C preferred investment led by the SoftBank (9984.T) Latin American Fund, with participation from ForgeLight, Google (GOOGL.O) and

The Raine Group, is expected to close this year. The deal is subject to regulatory approvals in the United States and Mexico, as well as Televisa shareholder approval. A spokesperson for Televisa and a media representative for Univision both declined to comment. Televisa-Univision is planning to launch a global streaming platform to serve Spanish speakers, which will take on established rivals including Netflix Inc (NFLX.O) and Disney Plus (DIS.N). The streaming service will first launch in the United States and Mexico before expanding elsewhere in Latin America and Europe, company officials said. Televisa has previously said it will hold a 45% equity stake in Televisa-Univision. It will also continue to own and operate izzi Telecom, Sky Mexico, and other businesses, as well as its main real estate production facilities, the broadcasting licenses and transmission infrastructure in Mexico.

(September 15, 2021) reuters.com

Mongolia

The Communications Regulatory Commission (CRC) has awarded the country's fifth mobile license to ONDO (registered as IN Mobile Network), which plans to operate under the SuperNet brand. The firm plans to deploy 4G, 5G and IoT networks, according to its new website, with an initial focus on the capital

Ulaanbaatar. A list of licensees published by the CRC shows IN Mobile Network's concession expiring on 10 September 2031. Mongolia's mobile sector is currently home to four players: MobiCom, Unitel, Skytel and GMobile.

(September 24, 2021) commsupdate.com

The Netherlands

The Netherlands' State Secretary for Economic Affairs Mona Keijzer has told the House of Representatives that the planned auction for 3.5GHz 5G mobile frequency licenses will be delayed due to the ongoing legal dispute with satellite operator Inmarsat which uses the spectrum band for international emergency/safety communications services. A government target of completing the 3.5GHz auction by April 2022 – with a view to making the 5G mobile band useable nationwide in September that year – will be pushed back for an unknown length of time. Dutch news site

Nu.nl cites Ms. Keijzer's letter to parliament as saying that Inmarsat has indicated its willingness to work towards a solution with the government, whilst an independent advisory committee is expected to begin work in October and to issue advice on the matter in the first quarter of 2022. The State Secretary noted: 'The exact duration of the auction delay depends, among other things, on the advice of the independent advisory committee.' A judge ruled in June that Inmarsat does not have to move its satellite ground station in Burum, northern Netherlands, for the time

being, as international agreements regarding the station outweigh the government's aims to free up the 3.5GHz spectrum for faster wireless internet services. (September 6, 2021) commsupdate.com

Nigeria

The Federal Executive Council has approved the 'National Policy on Fifth Generation (5G) Networks for Nigeria's Digital Economy'. The 5G policy was approved on 8 September 2021, following its presentation by the Minister of Communications and Digital Economy, Isa Ali Ibrahim Pantami. The National Policy was developed over a period of two years, due to the need for extensive stakeholder engagement and the need to ensure adequate public awareness, and it also took into account the report of the three-month 5G trials that commenced on the 25 November 2019 to study the health and security implications of deploying 5G in Nigeria. The implementation of the National Policy is with immediate effect and the National Frequency Management Council (NFMC) will soon release spectrum to the Nigerian Communications Commission (NCC) to award to mobile operators that meet all the required conditions. (September 10, 2021) commsupdate.com

The Nigerian Communications Commission (NCC) will hold a public inquiry on three draft regulations and guidelines concerning the country's telecoms market. Interested stakeholders have been invited to make written submissions on the Registration of Telephone Subscribers Regulations, the SIM Replacement Guidelines and the Spectrum Trading Guidelines by 24 September 2021. They have also been invited to participate in the subsequent public inquiries which have been scheduled for 5 October. (September 2, 2021) commsupdate.com

Norway

With Norway's National Communications Authority Nasjonal kommunikasjonsmyndighet, Nkom) set to begin its auction of 5G-suitable spectrum in the 2.6GHz and 3.6GHz bands later this month, it has reiterated that those companies that do secure frequencies will be able to reduce the price they pay by committing to expand broadband coverage in rural areas. In line with this, the regulator has now published a preliminary overview of the buildings which currently lack access to broadband at downlink/uplink speeds of at least 100Mbps/10Mbps, noting that winners of frequencies will be able to save as much as NOK560 million (USD65 million) – dependent on how much spectrum they win – by rolling out their networks at these locations. According to the Nkom, by offering a reduction to companies in this manner, the body aims to encourage the development of broadband access in unserved and underserved areas that are not expected to benefit from commercial network rollouts without state support. It has, however, noted that the locations in its preliminary overview are not final, saying it expects to update the information later this year, once data from its annual coverage survey is ready. (September 7, 2021) commsupdate.com

The National Communications Authority (Nasjonal kommunikasjonsmyndighet, Nkom) has published feedback from its consultation on the opening up of the 3.8GHz-4.2GHz spectrum band for local 5G networks. In releasing its preliminary assessments based on the inputs from interested parties, the regulator said that its initial plans had been 'well received', while it noted there had also been 'good and constructive suggestions that [it] will take a closer look at'. As previously reported by CommsUpdate, in June 2021 the Nkom proposed opening up the 3.8GHz-4.2GHz spectrum band for local 5G networks, saying it planned to grant two different types of licenses for local networks, those being: a low-power license intended for local private mobile networks; and a high-power concession intended for the provision of services such as fixed-wireless broadband in larger outdoor areas, including industrial parks and harbors. In the latest development regarding the matter, the Nkom noted that it plans to open applications for spectrum in the 3.8GHz-4.2GHz spectrum band in the first half of 2022, while further work on determining the final regulation regarding such frequency allocations will be carried out 'during the autumn'. (September 2, 2021) commsupdate.com

Paraguay

The National Telecommunications Council (Consejo Nacional de Telecomunicaciones, Conatel) has renewed the 4G AWS licenses held by Tigo and Claro. According to La Nacion, both operators have committed to fulfilling increased 'social commitments' as part of their renewal terms. These conditions relate to equipping rural telecentres with internet connectivity, equipment and furniture. According to TeleGeography's GlobalComms Database, in December 2015 Tigo and Claro were formally awarded 1700MHz/2100MHz 4G licenses, each paying USD45 million for the frequencies. It was confirmed that the two winning bidders had paid their license fees in full by February 2016, paving the way for them to stage commercial launches in April that year. All licenses issued by Conatel are valid for five years, but available for renewal upon request. (September 2, 2021) commsupdate.com

Philippines

From 30 September, pre-paid and post-paid mobile users in the Philippines can now hold on to their mobile number when switching service provider, as the Republic Act No. 11202, also known as the Mobile Number Portability Act (MNP Act) comes into force. However, Telecommunications Connectivity Inc. (TCI) – the joint venture company set up by the country's three mobile operators, PLDT's Smart Communications, Globe Telecom and DITO Telecommunity in January 2020 to oversee the process – warns that there may

be some teething problems or 'inconveniences' in the launch phase. TCI general manager Melanie Manuel warned: 'We do expect to experience some inconveniences as we start offering the service, but we are confident that with the continued cooperation and hard work of our three partner telcos, we can say that finally, forever is here.' At least a million Filipinos are expected to take advantage of the new MNP regime in the initial phase, Manuel added.

(September 30, 2021) commsupdate.com

Portugal

The National Communications Authority (Autoridade Nacional de Comunicacoes, ANACOM) has announced that it has increased the bidding increments in its slow-moving 5G auction. Published on 20 September, Regulation No. 867-A/2021 will enter force on 27 September 2021 and allow participating companies to raise their respective bids by 5%, 10%, 15% and 20% – rather than the current 1%. TeleGeography notes that the sale of 900MHz and 1800MHz spectrum – which was reserved for new market entrants – concluded on 11 January, after just eight days of bidding. The full 5G auction, which comprises sought-after spectrum in the 700MHz, 2100MHz, 2.6GHz and 3.6GHz bands commenced on 14 January and is now on its 158th

day of bidding (21 September). Previously, in June this year, ANACOM increased the number of daily bidding rounds from seven to twelve, but the measure proved insufficient. Defending the new move, the watchdog wrote: 'This excessive extension of the auction is highly harmful to national interests, which is why ANACOM has approved this amendment to the auction rules to speed up the process, while maintaining bidders' flexibility in determining the price … This change does not compromise the bidders' future strategies, does not affect the discovery of the price already achieved during the auction, nor does it create discrimination between them, not giving advantages to one bidder over another.' (September 21, 2021) commsupdate.com

Romania

The National Authority for Management and Regulation in Communications (ANCOM) has opened a consultation on its draft decision on indicative tariffs charged to telecoms network operators for access to the overhead infrastructure owned or operated by electricity distribution companies and local public transport services. The proposed tariffs are intended to avoid disputes between such companies and telecom network providers seeking or benefiting from access to their infrastructure. For access to the infrastructure of electricity distribution companies, ANCOM is proposing

rates of RON1.84 (USD0.43) per pole/cable/month (exclusive of VAT) for poles supporting overhead low voltage power lines, RON3.46 per pole/cable/month for those carrying medium voltage lines and RON22.62 per km/cable/month for infrastructure supporting high voltage lines. The proposed rate for access to poles owned and managed by local public transport services such as tramways is RON7.44 per pole/cable/month. Stakeholders have until 27 October to submit their comments.

(September 29, 2021) commsupdate.com

Slovenia

The Agency for Communications Networks & Services (Agencija za komunikacijska omrezja in storitve, AKOS) has opened a tender for a 2×5MHz block of spectrum in the 2100MHz band. The block (1950MHz-1955MHz/2140MHz-2145MHz) was originally awarded to Tusmobil (now Telemach Mobil) in 2008 but rival operators complained that the award process had been unfair. Following years of legal challenges, a court

ruling finally ordered Telemach to return the spectrum. While Telemach then applied to have the frequencies re-awarded, AKOS has decided that due to market demand the spectrum should be auctioned. Telemach competes with three other companies in Slovenia's wireless sector: Telekom Slovenije, A1 and T-2.

(September 7, 2021) commsupdate.com

Spain

The Spanish government is confident that it will be in a position to publish its plans for the 5G-suitable 26GHz band by end-2021. The timeline was revealed by Roberto Sanchez, the Secretary of State for Telecommunications and Digital Infrastructure, who noted that a portion of the band will be reserved for

industrial 5G use, with the rest sold to the country's telecoms operators. However, Mr. Sanchez warned that there may not be sufficient time to allocate the frequencies this year, with that part of the process more likely to take place in 2022.

(September 10, 2021) commsupdate.com

Taiwan

Taiwan's National Communications Commission (NCC) has announced plans to measure the transmission speeds of 5G services from the first quarter of next year. With the regulator noting it has yet to examine the speeds offered over the 5G networks deployed by the nation's cellcos since their launch last year, it has indicated it plans to publish the results of its speed tests in 2023. NCC Chief Secretary Chen Chung-shu confirmed that the agency was still finalizing its methodology to measure speeds, as well as how to present the results, with the executive stating: 'Most 5G services around the world use a non-standalone model, meaning that part of the service would still be offered through 4G cell stations … Through a strategic partnership agreement, Asia-Pacific Telecom uses the 5G spectrum and network owned and built by Far EasTone Telecommunications. Under these situations, we have to figure out proper ways to present the results of a speed test.' In related news, the government will soon award subsidies to Taiwan's mobile network operators (MNOs) as part of an incentive scheme

designed to accelerate installation of 5G base stations. The Executive Yuan, the executive branch of the government, is understood to have allocated between TWD9.9 billion and TWD15.4 billion (USD358 million-USD556 million) for 2021 and TWD5.5 billion for 2022 as part of an incentive scheme which will reward 5G operators who build more cell stations than they had pledged in their business plan. With the NCC having promulgated rules governing the distribution of these subsidies in March 2021, it is now planning to finish network inspections in October, with the commission's vice chairman, Wong Po-tsung, noting: 'In August, we distributed about TWD2.9 billion of this year's budget after we reviewed firms' cell station construction plans … We are to verify whether they have achieved what they promised, with the survey to be completed by the end of next month.' According to Wong, operators could receive their full subsidies for this year by the end of November 2021, subject to the findings of the inspections.

(September 13, 2021) The Taipei Times

Tanzania

The Ministry of Communication and Information Technology has signed a partnership deal with the Tanzania Electric Supply Company Limited (Tanesco) that will see the former expand broadband connectivity to reach all Tanzanians. The deal to be executed by the Tanzania Telecommunications Corporation (TTCL) involves using Tanesco's ready-installed infrastructure to improve connectivity. The move will triple the government's pace to build fiber optic internet connectivity in the country. Official figures show the national optic fiber connectivity is currently 8,319 kilometers, almost half below the government plan to reach 15,000 kilometers by the end of this year. The Minister for Communication and Information Technology, Dr. Faustine Ndugulile said yesterday that the national broadband is a must in the 4th Industrial Revolution. "The Fourth Industrial Revolution is built on a combination of various digital and modern technologies such as block chain, drones, internet, artificial intelligence and more... to be able to effectively use all these technologies, we need reliable communication and power supply," Ndugulile said at the signing ceremony which was also attended by the Minister for Energy, Dr. Medard Kalemani. Dr. Ndugulile said the ministry's plan is to ensure at least 94 per cent of the citizens have access to broadband coverage. Currently, Tanzania's internet users have reached 29.15 million people, with the majority going to the web through their cell phones. The cost per Mbps is also relatively high at five US dollars (about 11,595/-). The government and experts hope the new broadband will lower the internet cost across the country. "We want every home with electricity connectivity to have internet access," he said, emphasizing that the time is now for every house to have internet, television and

mobile phone connected to the national broadband. TTCL admits it had insufficiently connected the public to broadband, owing to limited yet expensive infrastructures. Energy Minister Dr. Medard Kalemani said the partnership will facilitate TTCL to use Tanesco's electric poles to distribute its fiber-optic cables nationwide. "This is a more efficient way, simple and just to expand broadband connectivity," he said. He noted that with the new partnership, Tanesco will also use some of the infrastructures already installed by TTCL to supply power in the country. Tanesco is currently linking dozens of districts to the national grid by building large scale power distribution lines. The lines which include the 680km-line in Iringa, 520 km-Somangafungu, 422km -Geita, 398km -Tabora and 392km line in Mpanda will also be used by TTCL to link the public to the national broadband service. Permanent Secretary in the Ministry of Communication and Information Technology Dr. Zainabu Chaula explained that the ministry and TTCL believe it will expand broadband to at least 4,449.7km, more than twice the planned 1,880km in the Financial Year 2021/22. This new partnership will, however, enable over ten regions in the Tanzania Mainland to be linked to the nation's fiber connectivity. 21 regions of Dar es Salaam, Coastal, Morogoro, Mbeya, Dodoma, Singida, Manyara, Arusha, Tanga, Kilimanjaro, Tabora, Shinyanga, Mwanza, Kagera, Lindi, Mtwara, Ruvuma, Rukwa, Kigoma and Mara are the only connected regions. TTCL Director General Mr. Waziri Kindamba and Tanesco Director General Dr. Tito Mwanuka said the corporations have agreed on a modality of implementing, serving and rehabilitating the infrastructures.

(September 11, 2021) allafrica.com

Uganda

The Uganda Communications Commission (UCC) has agreed to award an extra 5MHz of wireless spectrum in the 1800MHz and 2100MHz bands to the country's largest cellular operator MTN. The firm says it needs the additional frequencies to increase its network capacity and improve quality of service (QoS). The award is conditional on MTN upgrading its entire network to achieve average street-level download speeds of 8Mbps within 18 months and to offer roaming on a national level to rival operators within six months.

(September 22, 2021) commsupdate.com

Ukraine

The National Commission for State Regulation of Communications and Informatization (NCCIR or NKRZI) reported on its website that it has begun the process of re-licensing the 2300MHz-2400MHz frequency band for 4G LTE mobile services, alongside an additional tranche of nationwide 2600MHz spectrum (2575MHz-2610MHz) also suitable for LTE. The regulator expects that the licensing will generate one-off revenues for the state budget of up to UAH2.4 billion (USD89 million). TeleGeography notes that the 2300MHz-2400MHz band has been freed up in most regions across Ukraine, following the revoking of 2300MHz-2345MHz licenses previously held by S-Line, and the 2345MHz-2400MHz permits of now-defunct WiMAX operator Intellecom (Giraffe). Mobile operator Vodafone Ukraine – which complete the acquisition of fixed line provider Vega this week – holds 15MHz of 2.3GHz spectrum in six regions via Farlep-Invest and Cable TV-Finance.

(September 10, 2021) commsupdate.com

United Kingdom

Having previously begun consulting on proposals for a new switching process for residential fixed voice and broadband customers in February 2021, UK telecoms regulator Ofcom has now finalized plans in this area. In terms of the key elements of the regulator's proposals – which have been out for consultation, with a 9 November deadline for submissions – it has confirmed that communications providers will be required to develop and operate a new 'One Touch Switch' process for all residential customers who switch fixed voice and broadband services. According to Ofcom, this new process will replace the existing arrangements from April 2023, and notably it has specified that using One Touch Switch, all customers will be able to use a single process to move providers regardless of who their existing provider is or what technology or network their service provider uses. Meanwhile, the regulator has also decided to remove the rules relating to the existing 'Notification of Transfer' process, which some customers switching fixed voice and broadband services use to move providers on the Openreach and KCOM networks. Alongside its plans for the fixed communications sector, meanwhile, Ofcom has also set out plans to improve the information that mobile network operators must give to customers who are considering switching their service. As per the proposals, a customer's current provider will now also need to tell them about the impact of the switch on any other services they also have with that provider, including bundled products and specific services for disabled customers. Ofcom has said it aims to publish a statement confirming changes to the 'General Conditions of Entitlement' – the regulatory rules that all British communications providers must follow in order to offer services – in early 2022, subject to considering the feedback it receives as part of this latest consultation.

(September 28, 2021) commsupdate.com

United States

The Federal Communications Commission (FCC) has confirmed that a total of 33 applicants have qualified to bid in next month's Auction 110 spectrum sale. The process will offer new flexible-use licenses in the 3.45GHz–3.55GHz band throughout the contiguous United States. The sale process will offer up to 100MHz of spectrum divided into ten 10MHz blocks and licensed by Partial Economic Area (PEA), for a total of 4,060 licenses. Bidding in Auction 110 is scheduled to begin on 5 October 2021. As per FCC documentation, the list includes major players AT&T Communications (bidding as AT&T Auction Holdings), Verizon Wireless (Cellco Partnership) and T-Mobile US (T-Mobile License), alongside regional player UScellular (United States Cellular Corporation). Fierce Wireless previously noted that DISH Network will bid via a holding company called Weminuche, while Grain Management, which owns a number of regional ISPs, will bid via New Level III. A further nine companies were deemed to be 'not qualified', including the likes of Frontier Communications.

(September 22, 2021) commsupdate.com

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