Volume 09, August, 2018

A SAMENA Telecommunications Council Newsletter

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SAMENA TRENDS

EXCLUSIVELY FOR SAMENA TELECOMMUNICATIONS COUNCIL'S MEMBERS

BUILDING DIGITAL ECONOMIES

Huawei: Academic Freedom Drives Progress in Tech 39

Cisco: Four-pronged Mantra for Transforming Service Providers 48

Interview

Said Al-Mandhari
CEO
Oman Broadband

THIS MONTH

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CONTENTS

05 EDITORIAL

10 REGIONAL & MEMBERS UPDATES
- Members News
- Regional News

41 SATELLITE UPDATES
- Satellite News

46 WHOLESALE UPDATES
- Wholesale News

50 TECHNOLOGY UPDATES
- Technology News

55 REGULATORY & POLICY UPDATES
- Regulatory News
- A Snapshot of Regulatory Activities in the SAMENA Region
- Regulatory Activities Beyond the SAMENA Region

INTERVIEW

07 Said Al-Mandhari
CEO
Oman Broadband

09 SAMENA Council Activity
SAMENA Council and TRA-Bahrain Define a Collaboration Framework to Tackle Pressing Telecom Industry Issues

ARTICLES

39 Academic Freedom Drives Progress in Tech

48 Four-pronged mantra for transforming service providers

CONTENTS

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Self-Organizing Networks

As Operators prepare to meet even more data-intensive needs of their customers, today's networks require better OAM capabilities, including self-planning, configuration, operational management, and most importantly, optimization, to be able to handle greater influxes and accumulation of data - which itself requires smart and robust analytics capability to be of optimum use to Operators and to end-users.

Focusing on the need for reducing cost of implementation and improving network performance in both 4G and, in the near future, 5G networks, various features in self-organizing networks (SON) exist and have been defined as standards and promoted in the 3G Partnership Project as well as by Next Generation Mobile Networks (NGMN). Real-life challenges, however, exist in actually deploying SON, considering it is difficult to implement and identify best possible interactions among simultaneously operating and even conflicting SON functions within a given network. Without overcoming such difficulties, robustness, stability, and required network operations cannot be achieved, and, so far, explains the reason why the SON ecosystem is currently small.

Where SON really comes into play is the role it will play in the automated operations of advanced networks of tomorrow. Over the last few years, it has been aptly understood that SON will have tremendous importance in being able to fulfill 5G network management requirements, considering autonomous management of networks would be integral to how advanced networks will operate, adapt, and deliver performance. Since Operators now need to be able to manage their highly-invested and ever-increasingly complex networks efficiently with minimal costs, it is important that techniques and technologies, such as SON, are adopted to manage networks with minimal effort, and to pave the path for realizing success in the IoT and cloud-driven world.

Operators majorly agree that SON will be essential to transformation toward 5G and the cloud. Thus among the biggest expectations of SON would be to optimize the customer experience for each user on the network, regardless of whether that user is human or thing. As the automation engine for tomorrow's networks, user-centric SON will have more relevance and direct importance for the end-user in terms of experiencing superior quality of digital experience and network performance, while helping Operators drive maximum value out of digital.

Making user complaints obsolete or a rarity would prove to be a great application of self-organizing networks. Operators' collective consensus as to how this automation should be achieved within our region would be essential to the growth of the SON ecosystem and to the growth and organization of the Internet of Things.

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

UNLOCKING THE POTENTIAL

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

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

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العمانية للنطاق العريض

Said Al-Mandhari
CEO
Oman Broadband

Q. What are the key areas of the Oman National Broadband Strategy in which Oman Broadband has achieved, maximally?
A. Oman's National Broadband Strategy has three main pillars, namely; the regulatory framework, demand stimulation and infrastructure enhancement. The infrastructure pillar is handled by Oman Broadband. Within few years of operation, Oman Broadband's optical fiber network introduced a significant improvement in the country's broadband infrastructure. Gaining access to other government owned fiber has opened opportunities for covering vast areas of the country by long hauls in addition to our own networks coverage.

Within a few years of operation, Oman Broadband's optical fiber network introduced a significant improvement in the country's broadband infrastructure.

Both governmental and commercial entities are increasingly utilizing this expanding infrastructure to fulfil their obligations towards the National Broadband Strategy.

Q. What are your major contributions to the Omani ICT market?
A. We have introduced the first open access FFTH network in Oman. This created competitive environment and offered affordable access to ultra-high speed broadband, that aside serving the customers today will be ready to meet future demand. It's worthwhile to mention that since Oman Broadband has started its operations packages with better value for customers (higher access speeds) have been introduced to the market. Further to that, with open access FTTH network service providers are benefiting as well, primarily due to a fact that lower investment is required at their end.

As already mentioned, we were also successful in securing long hauls to different areas and new locations in Oman, offering the service to governmental entities as well as all service providers. This product came out of the cooperation between Oman Broadband and various state-owned entities owning the underutilized fibre asset. We are very proud of this achievement which is good example of successful cooperation between various state entities to the benefit of the whole nation.

Furthermore, aside from our fiber optic network, Oman Broadband is taking part in newly founded Oman Tower Company, that is looking into deploying towers using the same open access principle, promoting sharing model. We are hoping that the mentioned will create another interesting ICT business opportunity.

Q. What growth trends in access and multi-faceted use of the Internet do you feel will emerge in the nearest future?

A. The expected trend in Oman is not different from the main stream trends throughout the world. We are expecting new technologies such as IoT and 5G to be deployed in Oman along with our peer countries in the region, if not sooner.

What we have witnessed is following; the demand for higher bandwidth is there if infrastructure is available. Therefore we are expecting further growth even before new technologies emerge, especially in education and health sectors that are adopting broadband technologies as a result of applications used by individuals and businesses.

Q. What are the biggest demand areas for broadband in Oman, and how does this compare with what is driving demand in the region?

A. As already mentioned, we see trends that are very similar to the region, meaning that demand is driven by:

- Video streaming
- Social media
- Education applications
- Gaming and other mobile applications
- Future: Health applications and IoT.

With Government taking more active role in promoting e-services, and 4th industrial revolution impacting our lives, we can only expect further growth. I would like to mention that Oman is under creation of the ICT strategy that will define action plan with a goal of stimulating growing ICT sector. Same will contribute to positioning Oman as a desirable location for various ICT initiative. Unfortunately, currently we are slightly lagging behind the region, therefore our goal is to bridge the gap as soon as possible. Education will play important role in this, as well as infrastructure, where Oman Broadband plays important role.

Q. What have been Oman Broadband's key initiatives and pilot programs, which have made an impact in the market?

A. As briefly described earlier, Oman Broadband introduced the first open access FTTH model in Oman. The end user can now select any service provider or multiple service providers simultaneously using our fiber. This has resulted in higher fiber optic penetration rates, more affordable broadband access and availability of huge bandwidths.

Moreover, Oman Broadband has concluded the 1st phase of an important national initiative lead by the Information Technology Authority linking different governmental entities through fiber networks.

It is important to state that we are looking in various aspects how and where we can help the development of the society in general, therefore taking active role in numerous initiatives initiated by the Government such as e-Commerce strategy, ICT strategy, supporting various education initiatives, supporting SMEs…

We are expecting new technologies such as IoT and 5G to be deployed in Oman along with our peer countries in the region, if not sooner.

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Q. Oman Broadband Company's main objectives for 2018-2019?

A. Rollout is progressing very well, and we will maintain the speed to overachieve 2020 goals. In 2018 we started rolling out outside Muscat, this will continue in 2019 were majority of our rollout will be other urban areas outside the capital. On the other hand, we are searching for opportunities to build the foundation for upcoming technologies.

Oman with its political and economic stability and strategic position is set to host number of services for the region and beyond, our infrastructure could play an important role in providing these services. I see this as a unique opportunity for the Sultanate and Oman Broadband that should not be missed.

Maintaining our independence from government funding in 2018 and beyond is also an objective which we have successfully achieved and are determined to keep as a priority.

SAMENA COUNCIL ACTIVITY

SAMENA Council and TRA-Bahrain Define a Collaboration Framework to Tackle Pressing Telecom Industry Issues

SAMENA Telecommunications Council and Telecom Regulatory Authority (TRA) of Bahrain, respectively represented by CEO and Member of the Board of Directors of SAMENA Council, Mr. Bocar A. BA, and HE Shaikh Nasser Bin Mohamed Al Khalifa, Acting General Director of TRA, have extended their co-operation building efforts and have officially entered into a collaborative framework, to help practically address pressing industry areas that concern the future of the Bahraini market as well as that of the Middle East.

Through a Memorandum of Understanding, both industry bodies, in their respective role as a trade association that seeks to further the interests of telecom operators in the SA-ME-NA region and as a regulator of the telecommunications industry in Bahrain, have defined a way forward to help develop the sector by facilitating common understanding and collaborative engagement, which should aid the identification of the industry's evolving priorities and areas of common interest with respect to sustaining progressive outlook on next-generation regulation; fulfilling national ICT development and capacity-building goals in the region; and enabling the fulfilment of Bahrain's economic and telecommunications development visions.

As a part of the collaborative agreement, SAMENA Council and TRA-Bahrain will organize consultations, studies, workshops, or develop common positions and whitepapers, or mutually identify, develop, or deploy any other platforms and mediums to achieve the defined core objectives of the agreement.

Mr. BA stated that "TRA-Bahrain is a progressive regulator renowned for its many firsts and out-of-the-box initiatives. Such openness and readiness to engage with the Private sector through SAMENA Council, especially with Telecom Operators, are a display of government-level understanding that doing business in the fifth-generation of regulation and industry development requires revamping traditional roles and pursuing more partnership-based initiatives that can enhance common understandings and help bring new opportunities to the surface. SAMENA Council is privileged to extend its sector-development partners' role to add value to the Bahraini telecom sector and to contribute to the larger digital economic development efforts underway within the region."

Acting General Director of TRA Bahrain, Shaikh Nasser Bin Mohamed Al Khalifa said, "The cooperation with SAMENA Council will allow for the exploration of areas of joint collaboration at regional levels. In an industry as dynamic and rapidly evolving as ICT, it is vital to remain open to new ideas and to be familiar with the latest changes in order to maintain a balance that benefits both operators and consumers. The industry will need to maintain a proactive approach to adopt and adapt to emerging challenges". In relation to working with SAMENA Council, Shaikh Nasser added, "We look forward to innovating through such collaboration and to closely working with industry players. The coming phase will focus on identifying areas of collaboration after which we can plan the next steps on how to execute and communicate the experience with regional industry players."

Both industry bodies, as enablers of Private and Public sector co-operation and collaboration building efforts, had previously discussed bringing public-private sector engagement to the next level, whereby the industry's sustainability needs as well as progress in regulatory transformation could be maintained to fulfil much larger digital transformational requirements of the region. SAMENA Council's ongoing active engagement with regional regulators and TRA-Bahrain's openness and future ICT vision have been the key factors, which will drive the new collaborative relationship between the two organizations.

MEMBERS NEWS

STC Announced a Contract for TV and Digital Broadcasting and the Marketing Sponsorships with the GSA and SAFF

STC announced signing a contract on 2nd August 2018, for TV and digital broadcasting and the marketing sponsorships with the GSA and SAFF. The contract will last 10 years starting from season 2018-2019. The deal will cost 660 Million SAR annually, and it will be self-funded. With respect to the financial impact, it will be SAR 6.6 Billion over the life span of the contract. It includes the matches of Saudi Professional League (SPL), Cups' Competitions, and Saudi National Team matches which organized by SAFF. STC`s contract is considered to the biggest in the middle east region and in the history of Saudi sport sponsorships. STC declared that it would launch Dawri Plus Channels, to broadcast the competitions, which will allow watching all football matches through free and paid digital and traditional channels. Eng. Nasser Al Nasser, STC Group CEO, confirmed that STC will add value to the experience of watching sport competition in innovative ways. He added, "The signing of the historic contract reflects STC's new strategy of growth and digital transformation, in line with the objectives of the Kingdom's Vision 2030". "Our investment in the national sports as a strategic partner is a historical; I would thank Custodian of the Two Holy Mosques and HRH Crown Prince for their support to Saudi Sports and athletes. I would also thank Chairman of the General Authority for Sports Advisor Turki bin Abdulmohsen Al-Sheikh, for the his support". The agreement will include the technical sponsorship of all sporting events and the marketing sponsorship of SPL. The first official broadcast of Dawri Plus channels is for Super Cup match on August 18th in London.

Saudi Telecom Company Announces the Company's Preliminary Financial Results

Saudi Telecom Company (STC) announced the company's preliminary financial results for the period ending at 30 June 2018:

Key Highlights

- Revenue from Services for 2nd quarter reached SR 13,182m an increase of 1.1% compared to the corresponding quarter last year. For the first half of 2018, the company maintained the revenue level at SR 25,568m.
- Gross Profit for the for 2nd quarter reached to SR 7,112m an increase of 2.9% compared to the corresponding quarter last year. For the first half of 2018, the Gross Profit increased by 2.0% to reach SR 14,109m.
- Operating Profit for the 2nd quarter reached to SR 2,901m an increase of 12.3% compared to the corresponding quarter last year. For the first half of 2018, the Operating Profit increased by 6.4% to reach SR 5,533m.
- Earnings before Interest, Taxes, Zakat, Depreciation and Amortization (EBITDA) for 2nd quarter reached to SR 4,674m an increase of 8.6% compared to the corresponding quarter last year. For the first half of 2018, the Earnings before Interest, Taxes, Zakat, Depreciation and Amortization (EBITDA) increased by 5.2% to reach SR 9,318m.
- In accordance with the approved dividend policy for three years starting from the 4th quarter 2015 which was announced on 11 November 2015, and have been ratified during the General Assembly Meeting on April 4th 2016, STC will distribute a total of SR 2,000 million in cash dividend for Q2 2018, representing SR 1 per share. The eligibility of dividends shall be for the shareholders at the close of trading on Tuesday 31/7/2018 and as per the registered shareholders in the register of The Securities Depository Center Company at the end of the 2nd trading day following the eligibility date. Dividend distribution date will be on 16/8/2018. The number of shares outstanding for Dividend 2,000 million shares.

Commenting on the financial results, Eng. Nasser Bin Sulaiman Al Nasser, Chief Executive Officer of Saudi Telecom Group stated: The results of the 1st half of 2018 was good compared to the corresponding period last year, as the company maintained the revenue level which was driven by an increase in data revenue by 6.7%. The company continues the comprehensive program to improve the operational efficiency and to work on costs optimization initiatives, that have led to an increase in the net profit by 3.7% in the 2nd quarter of 2018 compared to the same quarter last year and by 2.9% for the 6 months of 2018 compared to the same period last year. As part of the company's strategy (DARE)

that aims to grow and expand in non-traditional fields in the ICT sector, Eng. Al Nasser mentioned, that the company aims to expand its investment through focusing on the value add of the technical and Fin-Tech solutions and content, which will help to achieve the targeted growth that the company seeks in the near future. In addition, the new Data Center in Riyadh, which represents the infrastructure of digital transformation, has been launched in line with the National Transformation Program 2020 and Vision 2030. It will have a positive role to play in supporting and enabling the digital services for both public and private sectors in advanced technologies of cloud computing, cyber security, data analysis and smart cities. Al Nasser affirmed that by launching the new Data Center, STC would be the largest provider of infrastructure in the Middle East for Cloud Computing services with 12 new centers to be added over the next three years. Eng. Al Nasser also said, that as the company continues the technological advancement, its vision for the future and providing digital solutions that enrich the customer experience, which corresponds to the tremendous development in the telecommunications sector, have both led us to achieve, 1) the first place in the Kingdom as the fastest internet provider on the 3G, 4G and Fiber networks, according to "Mekias - Standard", 2) the successful launch of the first live 5G network after completion of the tests stage, for the first time in the Middle East and North Africa, and 3) being placed among the top 20 in the world within 100 international companies in the field of Communications and Information Technology, according to "Global". He also added, as the main provider of digital services and as part of the Vision 2030 initiatives, the company continues to deploy Fiber Optic Broadband services in the urban areas of the Kingdom with the support from the Ministry of Communications and Information Technology. The total number of Fiber Optic subscribers have increased in 2nd quarter of 2018 by 8.5% compared to the same quarter last year.

Batelco Bahrain Reaches Over 100 LTE Roaming Connections around the World

Batelco, the Kingdom of Bahrain's leading digital communications provider meets the needs of its customers travelling internationally by providing high speed LTE Data Roaming services with more than 100 roaming operators in more than 45 countries around the world. Batelco's customers can enjoy high-speed data while roaming with any of Batelco's international data roaming service providers. Batelco customers will automatically connect to high speed LTE while roaming. To stay connected with your loved ones while travelling, Batelco offers a selection of data roaming bolt-ons. The options include one-day data roaming in the GCC for only BD5 and seven-day data roaming in the GCC for BD10. Additionally, customers can benefit from two-week roaming in international destinations for only BD20. All the data roaming bolt-ons are for both Mobile Postpaid and Prepaid lines. As part of the partnerships with international providers, customers of Batelco's data roaming partners can enjoy roaming on Batelco's network while travelling in Bahrain. Batelco currently has over 1500 roaming agreements for all services with international operators, covering over 165 countries that offer Roaming services, and new connections will be added regularly in line with the Company's strategy to provide customers with access to the best communication connections in all areas of the world. The full list of international operators that Batelco has agreements with can be found on batelco.com along with the roaming rates for all services.

Batelco Announces Its Exclusive Partnership with Talabat

Batelco, Bahrain's leading digital solutions provider announces its exclusive partnership with Talabat to reward Batelco's customers with the opportunity to win an amazing array of high value prizes. Batelco customers using the Talabat application to place their home delivery orders are automatically entered into weekly and monthly raffles which will continue until August 25, 2018. The weekly prizes provided by Talabat include an additional 200GB on Batelco Home Internet lines, 2 iPhone X, 2 iPad Pro, 2 PlayStation 4, 2 Samsung Galaxy VR, TCL LED TV 40" and 2 Sony Bravia Smart TV 55". The grand prizes for the monthly draws includes two Chevrolet Camaros. New customers are welcome to subscribe to Batelco mobile postpaid packages to benefit from this great prize winning opportunity with Talabat. Founded in 2004 in Kuwait, Talabat began its operations in Bahrain in 2012. Since then, it has become the home of takeaway in the Kingdom and the pioneer in the online food ordering service in the GCC region and Jordan. Talabat helps customers find restaurants in their areas, filter by cuisines, offers and more, browse menus and place their orders with an option of online payment or cash on delivery. They offer their services through desktops and mobile apps for iPhone, Android, iPad and Windows.

du Expands Retail Footprint in Dubai, Abu Dhabi and Ajman

du, from Emirates Integrated Telecommunications Company (EITC), has opened 9 new outlets at various locations in the UAE to provide customers with a more efficient and enhanced retail experience. The new stores employ more than 50 experts, multilingual staff members to engage and connect with citizens and visitors, assist with technical queries and ensure the highest possible standard of customer satisfaction. The expansion of du's presence in the UAE is part of its objective to provide easily accessible, personalized services to all its customers. Brand new stores are now open across the UAE-in Dubai's Festival City, Golden Mile at Palm Jumeirah, Sunset Mall and Burjuman Centre. In Abu Dhabi, new outlets are open in Ruwais Mall, Marina Mall Abu Dhabi, Mazyad Mall and Central Mall. Ajman City Centre also boasts a du outlet to better serve the community. Fahad Al Hassawi, Deputy CEO, Telco Services-EITC said: "Expanding our retail footprint across the UAE is part of du's commitment to increase proximity to our customers in high-density communities and locations. Growing demand has resulted in new touchpoints in remote areas such as Ruwais so we are able to ensure easy access to mobile and home products and increased convenience for residents, tourists and businesses alike. du will continue to innovate and improve with our robust portfolio of services to accommodate further progress in the future." As part of its pledge to deliver an exceptional experience to all customers, du has continuously sought new ways to strengthen its customer service ecosystem leading to an unmatched retail evolution. In line with its long-term commitment to supporting the development and enhancement of the UAE's connectivity goals, the telco is planning to open more outlets during the course of this year.

Etisalat and Microsoft Sign Online Gaming Partnership in the UAE

Etisalat, has signed a strategic partnership with Microsoft to streamline content purchasing for customers in the United Arab Emirates. Xbox gamers in the UAE can now pay for their online content via their Etisalat mobile account. They will also be able to make purchases from the Microsoft Store on their PC's through their pre or post-paid Etisalat accounts. "We are excited to grow our partnership with Microsoft to offer a convenient, easy, and secure payment option that will enrich Xbox customers' experience with more convenience and value," Khaled Elkhouly, chief consumer officer, Etisalat UAE, told The Gulf Today news site. Etisalat is looking to grow its network of relationships with content providers, to provide its customers with a truly converged offering of products. The partnership marks a regional first for the Middle East, as Xbox's manager for the GCC region, Mohammed Habbab, explains. "This is the first time in the GCC region that any gamer on any console will be able to make purchases through a telecoms channel," he said.

Etisalat Offloads Thuraya Stake to Yahsat

United Arab Emirates (UAE)-based telco Etisalat has completed the sale of its 28.04% stake in satellite communications provider Thuraya for AED137 million (USD37 million). Its shares were acquired by Star Satellite Communications, a unit of Al Yah Satellite Communications (Yahsat), under an agreement first announced in April this year. According to Etisalat, the deal takes Yahsat's stake in Thuraya to over 75%. Both Thuraya and Yahsat are based in the UAE, and together the two companies operate five satellites which cover Europe, Africa, the Middle East, South America and Asia.

Omantel Signs MoU with BSS

Omantel, the first and leading provider of integrated telecommunications services in the sultanate, has recently signed a MoU with Blockchain Solutions & Services (BSS) for mutual cooperation between the two companies which include availing the smart solutions offered by BSS in logistic and commercial operations. The MoU comes as part of Omantel's ongoing efforts in offering smart solutions for digital transformation and laying the groundwork for smart cities' ICT services. Samy Ahmed al Ghassany, chief operating officer at Omantel, said, "Omantel is keen on boosting mutual cooperation with local and regional ICT companies as such collaboration supports Omantel's vision in leading the digital transformation in Oman and helps the digital society to flourish." He added, "We are glad to collaborate with BSS, an Omani company delivering innovative Blockchain solutions locally and internationally. We believe that collaborations, like this one, will help us meet the demand for e-services and smart solutions in the Omani market and will pave the way for smart cities and digital communities." Dr Khalid Tahhan, CEO of BSS, said "The information revolution on the Internet during the past years have brought a positive change to the productivity of organisations and individuals alike, and throughout the years there have been much efforts to simplify procedures and make operations more efficient. Blockchain is one such foundational technology that is expected to be a milestone in ICT and smart solutions as it offers more efficient instant digital transactions which will help empower IoT, big data and machine learning." Dr Tahhan added, "Blockchain technology can be used in various fields, such as education, health, finance, oil and gas, digital sales, logistics and others." Fadi Nasser, general manager of ICT Unit at Omantel, said, "We work hand in hand with Oman Data Park and mOmkin to deliver end-to-end smart solutions with unparalleled

comprehensive value to many vital sectors in Oman. We do so by extending our technology service portfolio beyond infrastructure IT services, into big data platforms, information security and artificial intelligence to give us this unprecedented capability to deliver more competitive solutions to our clients, whom we consider to be appraised partners on this digital transformation journey." He added, "We are proud to have a national company with such experience locally to collaborate with. BSS is creating value in the form of Blockchain products and services right from Oman, helping us accelerate the transition to digital industries organically." Investing in the future of the nation, Omantel connects even the most remote communities of the sultanate to each other and the rest of the world. Omantel is Oman's leading integrated telecommunications services provider, enabling the digital society to flourish, allowing new ways of doing business and delivering a world of information.

Orange Jordan Announces Its Strategic Partnership with the MENA ICT Forum 2018

Orange Jordan recently announced its strategic partnership with The Middle East and North Africa Information and Communications Technology Forum (MENA ICT) 2018 that will be held under the patronage of His Majesty King Abdullah II. The two-day forum will take place on September 10 and 11, and organized by The Information and Communications Technology Association of Jordan (int@j) and the Ministry of Information and Communications Technology (MoICT), with the aim of developing the telecommunications sector in the Kingdom. This partnership was announced at a press conference organized by int@j, at the King Hussein Business Park, in the presence of ICT Minister, H.E. Muthana Gharaibeh, Minister of State for Investment Affairs and President of the Investment Commission, H.E. Muhannad Shehadeh, Chairman of the Board of Directors, Dr. Bashar Hawamdeh, CEO of int@j, Nidal Bitar, Deputy CEO of Orange Jordan/Chief Financial Officer, Raslan Deiranieh, strategic partners and media representatives. Deiranieh expressed his pride in Orange Jordan's participation and sponsorship of MENA ICT 2018, under the theme of "The New IT: Innovative Technology", and added that this theme falls in line with Orange Jordan as a leading international company with a local spirit, that contributes to the group's vision, through supporting digital transformation, and this support is considered one of the top priorities of Orange Jordan's five years corporate strategy "Essentials2020". He clarified that the topics of the forum workshops

for the current year focus on innovative technologies and applications which play a critical role in reshaping our world, as these advancements will continue to impact our daily lives, leading to a radical change on business models and the economy, and there will be major challenges to reinvent our business, to meet new requirements and realities, but at the same time, it will open up new horizons to work and facilitate our daily lives. He stressed that the company is always committed to bringing a fundamental and integrated change in its operations, services and business models, to match the evolving interests and desires of people, clarifying that the company is constantly seeking to introduce and offer users advanced technologies and digitization, making it accessible to everyone. Deiranieh added that the company has invested hundreds of millions of JD in its various networks over the years, focusing on New Generation Networks, solidifying its position as a leader in providing internet at the highest speeds, and meeting the needs of individuals and institutions through providing a variety of technological services to its subscribers, acknowledging that the world is heading towards the Internet of Things (IoT), cloud computing, and artificial intelligence (AI). The topics of this year's forum cover innovative technologies, which are taking center-stage in reshaping the work, such as self-driving vehicles, smart cities, facial recognition technology and smart applications. All of which will have a significant impact on daily life and lead to a radical change in the national economy in the long-term.

Telecom Egypt and Airtel Announce Strategic Partnership for Global Submarine Cable Systems

Bharti Airtel ("Airtel"), a leading global telecom services provider, and Telecom Egypt, Egypt's first integrated telecom operator, announced a strategic partnership, wherein, Airtel will get IRUs (Indefeasible Right of Use) on Middle East North Africa Submarine Cable (MENA Cable) and TE North Cable Systems. In addition, Airtel will also take large capacities on a long-term basis on two new state-of-the-art Cable Systems (SMW5 & AAE1). The transactions aim to be concluded after the fulfillment of all conditions precedents. The partnership grants Airtel the right to use fiber pairs of MENA Cable from Egypt to India with access to Saudi Arabia and Oman, and other fiber pairs from Egypt towards Italy. It also extends beyond MENA Cable, where Airtel will get the right to use a fiber pair from Egypt to France on TE North along with capacities on SMW5 and AAE1 cable systems. With this, Airtel will be able to further diversify its global network to serve the massive growth in demand for data services, particularly in emerging markets across South Asia, Africa and Middle East, while also benefitting from the favorable economics of Telecom Egypt's existing wide cable systems network. Ajay Chitkara, Director and CEO – Airtel Business, said, "The partnership with Telecom Egypt underlines our commitment to provide world-class service experience to our customers. The partnership including MENA Cable and TE's network will be a good addition to our global network portfolio and provide us with a high quality and diversified new route to Western Europe and the rest of the world. With the explosion of data usage in emerging markets, including India and Africa, this asset will provide us a scalable and diverse high capacity highway to serve our customers. In particular, it will provide impetus to India's emergence as a major regional internet hub serving customers across SAARC region, with seamless global connectivity." Ahmed El Beheiry, Chief Executive Officer of Telecom Egypt, commented: "Telecom Egypt's global network was built over the years through investments in consortiums as well as private international submarine cable systems. Our reach and position as an international hub with tens of Tbps lit capacity, makes us the partner of choice for Euro-Asian and Euro-African transit traffic. Telecom Egypt signed the agreement with OTMT to acquire MENA Cable with the aim of capitalizing on the growing traffic from India and Saudi Arabia to Europe and to obtain a new gateway to Europe through Italy. We are pleased to be able to sign the MoU with Airtel as well as to be able to bundle MENA's assets with existing assets of the TE network. We aim to come back to the market with more details on the MoU and its financial impact once the deal is closed." Egypt's distinctive geographic location on the Red and Mediterranean seas has enabled Telecom Egypt to connect more than 11 cable systems from the East and 13 from the West linked with the Red-Med Corridor consisting of 7 diversified routes across Egypt. Telecom Egypt's global network was built over the years through investments in international submarine cable systems, namely: TE North, ALETAR, SEA-ME-WE-3, SEA-ME-WE-4, SEA-ME-WE-5, IMEWE, EIG, and AAE-1. Airtel's global network portfolio includes ownership of i2i submarine cable system connecting Chennai to Singapore, consortium ownership of SMW4 submarine cable system connecting Chennai and Mumbai to Singapore and Europe, and new cable system investments like Asia America Gateway (AAG), India Middle East & Western Europe (IMEWE), Unity, EIG (Europe India Gateway) and East Africa Submarine System (EASSy). It also has terrestrial express connectivity to neighboring countries including Nepal, Pakistan, Bhutan, Bangladesh and China.

Telecom Egypt Highlights Revenue Growth in H1 2018

In releasing its financial results for the first half of 2018, Telecom Egypt announced a notable milestone, with revenues for the period topping EGP10 billion (USD558 million) for the first time. Consolidated turnover in the six-month period under review, meanwhile, stood at EGP10.13 billion, up from EGP8.74 billion in the corresponding period of 2017, with revenues for the second quarter of 2018 totaling EGP5.34 billion (2Q17: EGP4.59 billion). Turnover from the company's 'Home & Consumer' business surged, rose by 45% y-o-y to reach EGP3.77 billion in H1 2018, while revenues from its 'International Customers & Networks' and 'Domestic Wholesale' divisions also saw notable gains, rising by 22% and 17%, respectively, against H1 2017. In terms of other key financial metrics, Telecom Egypt reported an EBITDA of EGP3.29 billion for the opening six months of this year, up 19% against the EGP2.78 billion recorded in H1 2017, with the improvement attributed in part to 'strong cost control including employee and call cost management'. Net profit, however, declined by 18% y-o-y to EGP2.06 billion, on 'a decline in investment income from Vodafone Egypt and the impact of higher financing expenses'. Telecom Egypt's CAPEX for the first half of 2018 totaled EGP1.7 billion. As at 30 June 2018 Telecom Egypt had a total of 4.64 million fixed broadband accesses on its books, up 27% from 3.65 million a year earlier. Strong growth was also reported for the company's mobile service, which it launched in September 2017; by mid-2018 Telecom Egypt had attracted 3.31 million wireless voice subscribers, having added a million customers since the start of this year. Fixed voice accesses were also up, meanwhile, reaching 7.40 million by end-June 2018, up from 6.67 million a year earlier.

Telecom Egypt and Etisalat Misr Sign the First MoU for Virtual Fixed Voice Services

Telecom Egypt and Etisalat Misr announce the signing of a memorandum of understanding (MoU) to provide the latter with virtual fixed voice services. The agreement, the first in the Egyptian market, covers all the basic terms that shall allow both companies to formalize a commercial agreement in due course. Under this MoU, Telecom Egypt through its nationwide fixed network will enable Etisalat Misr to provide its customers with fixed voice services. The signing of this MoU is a major step towards enhancing cooperation between both companies and achieving mutual benefits, which will in turn enrich the Egyptian market with the diversification of offers and services. Etisalat Misr will benefit from this MoU by providing its customers with fixed voice services, while Telecom Egypt will enhance its revenues generated from the domestic wholesale business supported by the increase in Etisalat Misr's customer base. Ahmed El Beheiry, Managing Director and Chief Executive Officer, commented: "We are proud to have signed this MoU with Etisalat Misr, which reflects the real opportunities in the Egyptian telecom market and strengthens our strategic partnership and mutual commercial cooperation. Telecom Egypt began to reap the benefits of the major investments in developing its infrastructure and increasing its network coverage within Egypt. Such investments continue to have a positive impact on the quality of services that we provide to our customers (consumer, enterprise, and other operators) and confirms our keenness to provide the best to the Egyptian market." Hazem Metwally, Chief Executive Officer of Etisalat Misr, commented: "We are pleased to have signed the MoU with Telecom Egypt, which is a true addition to both companies and fosters our mutually beneficial cooperation. As a result of this agreement, Etisalat Misr will become a total telecom operator offering both voice and data services to its mobile and fixed customers. This will allow us to serve all our customers' needs through one operator and provide the highest quality possible given Etisalat Misr's advanced network and latest technology."

Zain Group Refinances USD 700 Million Revolving Credit Facility

Zain Group, the leading mobile telecom innovator in eight markets across the Middle East and Africa, is pleased to announce it has closed a US$700 million, five-year Revolving Credit Facility with a syndicate of regional and international banks. The transaction refinances a US$800 million Revolving Credit Facility arranged in 2014. The Facility will be used for general corporate purposes. First Abu Dhabi Bank PJSC (FAB) acted as the Sole coordinator of the Facility. FAB and SAMBA Financial Group acted as Bookrunners for the Facility. Arab Banking Corporation B.S.C., MUFG Bank Ltd. (DIFC Branch – Dubai), Credit Agricole Corporate and Investment Bank, Citibank N.A. London Branch, Natixis, DIFC Branch and Union National Bank PJSC all acted as joint Mandated Lead Arrangers. Arab Bank PLC acted as a Lead Arranger. FAB was also appointed the Facility Agent on the transaction. The Facility was oversubscribed in syndication and as a result, each lender's original commitment was scaled back at signing. Commenting on the transaction, Bader Nasser Al-Kharafi, Vice-Chairman & CEO of Zain Group said, "The closing of this Revolving Facility, which saw the transaction being oversubscribed, exemplifies the confidence placed in Zain Group's digital transformation strategy by the regional and international banking community. We are sincerely appreciative of this unwavering support." Al-Kharafi continued, "We continue to build a more dynamic Zain Group, with a strengthened balance sheet off the back of such developments as the recent consolidation of our Saudi operation into the Group effective July 2018. This latest Revolving Facility places Zain in a favorable financial position to explore organic and inorganic growth opportunities that may arise in the future." Zain Group recently announced its net profit increased 5% year-on-year for the first six months of 2018, with customer growth of 5%, and data revenues increasing 10% over the same period.

Zain Group Reports 5% Increase in Net Profit in 1H18

Telecoms group Zain has published its consolidated financial results for the six months ended 30 June 2018, reporting 'stable' revenues of KWD503 million (USD1.66 billion), while EBITDA decreased 20% annually to KWD169 million. Zain highlighted that for financial reporting purposes, it had applied the new IFRS 9 and IFRS 15 accounting standards, with these having negatively impacted its key financial indicators in the period under review, particularly EBITDA. The company booked a net profit of KWD86 million in the twelve months under review, up 5% year-on-year. Zain disclosed that it incurred foreign currency losses amounting to USD9 million (net income) and USD94 million (revenue) for the six-month period to 30 June, predominantly due to a 40% currency devaluation in Sudan. In operational terms, Zain Group reported a consolidated customer base of 47.4 million at 30 June 2018, up 5% y-o-y. In Kuwait subscriber numbers reached 2.8 million (up 7% y-o-y), while Jordan saw its customer base decrease to 3.7 million (down from 4.3 million). Zain Saudi Arabia's subscriber base also decreased, to 8.4 million in H1 2018 (down 7% y-o-y), as a result of the government's biometric identification project (which reduced the number of prepaid SIMs to two per ID). Zain Iraq served 14.7 million users at end-June 2018, with nearly two million net additions over twelve months, while Sudan's customer base increased 8% y-o-y to 13.9 million. Group CEO Bader Al-Kharafi said: 'In addition to the consolidated 5% net income growth and 5% customer growth, the first six months of 2018 produced numerous positive developments such as the operational progress being achieved in Kuwait, Iraq and Sudan, as well as the robust growth in our data monetization, Enterprise (B2B), and smart city initiatives especially in our key 4G markets of Kuwait, Saudi Arabia, Bahrain and Jordan.' The CEO also commented on the announcement that Zain Saudi Arabia will be treated as a subsidiary of Zain Group and its financial results will be consolidated with the results of Zain Group starting from the third quarter of 2018: 'The impact of this consolidation will strengthen the Group's financial indicators on various levels, except for net income, since Zain Group's ownership in Zain KSA will not change.'

Zain Kuwait Launches Latest Roaming Campaign for Postpaid Customers

Zain Kuwait has introduced its latest internet roaming campaign for postpaid customers entitled 'So far, yet so close'. Postpaid customers can now take their existing local data caps with them when travelling abroad for KWD 7 weekly by choosing one of Zain's carrier partners as soon as they arrive to their destination, and activating the offer by texting 'Data On' to 99990.

Bubbletone and Nexign Partner to Deliver New Blockchain Capabilities to the Global Telecom Market

Bubbletone and Nexign announced a partnership to develop a combined solution which is going to be the first of its kind in the global telecom industry based on both blockchain and BSS technologies. The solution will be a new step in modernization of BSS-systems for telecom operators worldwide that will enable new monetization streams by attracting new clients and providing current ones with new types of services. According to the agreement, Baltic Clementvale LTD, an Estonian branch of Clementvale LTD (an operating company that goes by the brand name Bubbletone), and Ventura Digital Solutions, a subsidiary company of Nexign, one of the leading software and services provider for telecom operators, will be developing a complex technological solution for the exchange of financial and identity information between operators. As a result, operators will benefit from a standalone BSS with embedded blockchain, enabling them to increase the efficiency of their business through rapid and seamless joining of the Bubbletone platform. Once operators join the platform, they will get an opportunity to expand their client bases as well as provide new services for their clients. "The idea behind our project is to attract as many mobile operators as possible to the Bubbletone ecosystem and show them how easily they can take full advantage of blockchain technology and get direct access to the international telecom market in the digital economy era. Thanks to our collaboration with Nexign, we will be able to provide mobile operators with a complex solution for smooth incorporation into our blockchain-based platform

that doesn't require any hardware customization or advanced integration processes", said Yuri Morozov, CEO and Founder of Bubbletone Blockchain for Telecom. "Nexign has been working on the telco market for more than 26 years. During this time, we have consistently demonstrated our revolutionary approach in creating unique solutions for the industry through focus on business-driven innovation. Blockchain technology has the potential to open up a range of new, exciting opportunities for operators around the world and we are confident that the collaboration between Nexign and Bubbletone will result in an industry-leading Blockchain-based BSS solution that will deliver business value seamlessly on a global scale," said Loukas Tzitzis, Chief Products & Marketing Officer of Nexign.

Cisco Announces Intent to Acquire Duo Security

Cisco announced its intent to acquire privately-held Duo Security, headquartered in Ann Arbor, Mich. Duo Security is the leading provider of unified access security and multi-factor authentication delivered through the cloud. Duo Security's solution verifies the identity of users and the health of their devices before granting them access to applications – helping prevent cybersecurity breaches. **** Integration of Cisco's network, device and cloud security platforms with Duo Security's zero-trust authentication and access products will enable Cisco customers to easily and securely connect users to any application on any networked device. Under the terms of the agreement, Cisco will pay $2.35 billion in cash and assumed equity awards for Duo Security's outstanding shares, warrants and equity incentives on a fully-diluted basis. "In today's multicloud world, the modern workforce is connecting to critical business applications both on- and off-premise," said David Goeckeler, executive vice president and general manager of Cisco's networking and security business. "IT teams are responsible for protecting hundreds of different perimeters that span anywhere a user makes an access decision. Duo's zero-trust authentication and access products integrated with our network, device and cloud security platforms will enable our customers to address the complexity and challenges that stem from multi-and hybrid-cloud environments." Business-critical data and applications today are accessed by customers, partners and employees from a multitude of locations and networks, both secure and open, using company-issued and personal devices. Attackers know that one of the most effective ways to access enterprise systems is through compromising user passwords or devices. According to the 2017 Verizon Data Breach Report, the majority of hacking related breaches involve stolen or weak passwords. Acknowledging this, Cisco and Duo Security are closely aligned in the approach of designing infrastructure for the extended enterprise where users, devices and applications are the center of the modern security architecture. The acquisition of Duo Security will:Extend

intent-based networking into multicloud environments: Cisco currently provides on-premises network access control via its Identity Services Engine (ISE) product. Duo's software as a service-based (SaaS) model will be integrated with Cisco ISE to extend ISE to provide cloud-delivered application access control. Simplify policy for cloud security: By verifying user and device trust, Duo will add trusted identity awareness into Cisco's Secure Internet Gateway, Cloud Access Security Broker, Enterprise Mobility Management, and several other cloud-delivered products. Expands endpoint visibility coverage: Cisco's in-depth visibility of over 180 million managed devices will be augmented by Duo's broad visibility of mobile and unmanaged devices. "Our partnership is the product of the rapid evolution of the IT landscape alongside a modernizing workforce, which has completely changed how organizations must think about security," said Dug Song, Duo Security's co-founder and chief executive officer. "Cisco created the modern IT infrastructure, and together we will rapidly accelerate our mission of securing access for all users, with any device, connecting to any application, on any network. By joining forces with the world's largest networking and enterprise Security Company, we have a unique opportunity to drive change at a massive scale, and reshape the industry. "The acquisition is expected to close during the first quarter of Cisco's fiscal year 2019, subject to customary closing conditions and required regulatory approvals. Duo Security, which will continue to be led by Song, will join Cisco's Networking and Security business led by EVP and GM David Goeckeler.

Cisco Sales Growth Strengthens to 6% in July Quarter

Cisco Systems reported a strong increase in revenues for its fiscal fourth quarter to July, up 6 percent to USD 12.8 billion, at the high end of guidance. Net profit rose 57 percent to USD 3.8 billion, helped by the US corporate tax reform, and EPS was up 69 percent to USD 0.81, well ahead of the company's outlook.

Cisco and Google Cloud Embark on a Journey to Streamline Work for 150M+ People

Life just got a whole lot easier for the millions of people who use the industry - leading apps and services delivered by Cisco Collaboration and Google Cloud. As part of our deepening alliance, Cisco is announcing its first wave of collaboration integrations with Google products. This goes far beyond merely making sure our calling, email, document collaboration, and customer service products work together. The goal is to help people be much more efficient so they can do their jobs better. At Cisco, we believe artificial intelligence and machine learning will dramatically change the way we work. As we create that new future, we are exploring how AI services from Google Cloud Platform can help us expand collaboration capabilities. We are making the announcement at Google Cloud Next in these key areas:

- Give your contact center agents an AI-enhanced assist so they can answer questions quicker and better. More than three million customer service agents globally use Cisco contact center software. We want to make their interactions the best they can possibly be. So we are adding Google Artificial Intelligence (AI) to our Cisco Customer Journey Solutions via Google Cloud's new Contact Center AI solution. Contact Center AI is a simple, secure, and flexible solution that allows enterprises with limited machine learning expertise to deploy AI in their contact centers. The AI automatically provides agents with relevant documents to help guide conversations and continuously learns in order to deliver increasingly more relevant information over time.

This combination of Google's powerful AI capabilities with Cisco's large global reach can dramatically enhance the way companies interact with their customers.

- Schedule a Webex meeting within your Google Calendar with one click.

With an add-on from G Suite in the coming months, you'll see the Webex Meetings icon every time you schedule a meeting in Google Calendar. Click it to set up your video-first Webex meeting for the people and rooms you need, and let the technology do the rest. People join from a Cisco video device by simply pushing the big green "join" button. Or from a Chrome browser with just one click- no downloads or guest accounts required. While different companies created the tools, it will now feel like they were built to work together. Making meetings easier to schedule and join is only part of the problem we're solving. We will jointly explore using Google AI for capabilities such as transcription, translation, meeting summaries and task management to ensure what's discussed becomes more actionable for everyone whether they were there or not.

- Add Cisco calling and meetings into your Android app. Thanks to the Webex Teams Android SDK, developers can easily add Cisco collaboration capabilities into their Android apps. For example, you could add Cisco video meetings into smart glasses for a "see what I see" experience between, say, an expert on land and an engineer on a ship in the middle of the ocean.

- Use Google Docs, Sheets, Slides and Forms in your Webex Teams Spaces. As people collaborate on content more and more, Cisco and Google are exploring ways to make the job easier. No more endless reposting of documents as people layer on new rounds of edits. Post it once, edit it as many times as you need, or co-collaborate on content to get things done even faster. Everyone always has the latest and greatest version.

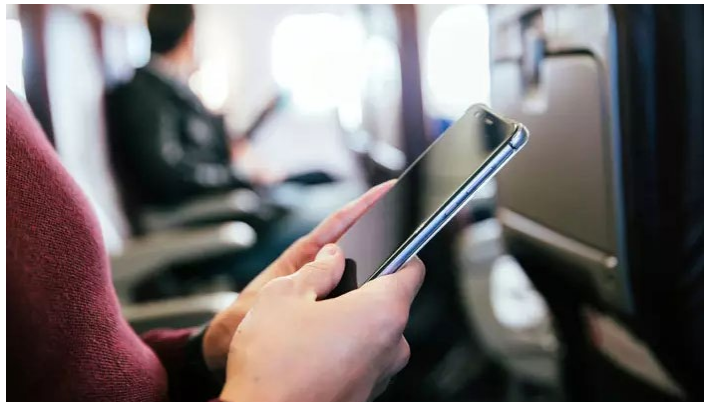
"Together, Cisco and Google Cloud can drive significant value for our customers," said Amy Chang, SVP, Cisco Collaboration. "We're excited about these initial integrations and what's to come as we work together to improve the future of work. This is just the beginning."

DE-CIX Services Now Available at Equinix in Dusseldorf

DE-CIX is expanding its presence in the state capital of North Rhine-Westphalia. The world-leading operator of Internet Exchanges now also offers its services – such as GlobePEER, GlobePEER Remote, and DirectCLOUD – in the Equinix Dusseldorf data center. Equinix customers need only a so-called cross-connect to connect to DE-CIX Dusseldorf and Frankfurt. This location is the fourth DE-CIX enabled site in the Rhine metropolis. DE-CIX Dusseldorf has also been able to achieve enormous customer growth since the end of last year. Over 50 networks now use DE-CIX services on location, a growth of 180 percent in comparison to the end of 2017. "We are continuing on the road to expansion in our Dusseldorf location. Since the beginning of the year, we have been able to extend our services to three further data centers. Overall, we have had enormous success with our strong focus on the German locations - alongside our flagship Frankfurt - Munich, Hamburg and Dusseldorf. Our customer numbers especially in these locations have grown by at least 100 percent," says Dr. Thomas King, Chief Innovation Officer at DE-CIX. "We are delighted to continue expanding our collaboration with DE-CIX. This is a tremendous win for us and we are pleased to bring DE-CIX closer to its customers not only in Frankfurt and Munich, but also in Düsseldorf," Donald Badoux, Managing Director of Equinix Germany GmbH. DE-CIX Dusseldorf was established in 2015 and is one of five locations in Germany (Munich, Hamburg, Berlin, and Frankfurt) and in total 13 DE-CIX sites worldwide. DE-CIX Frankfurt, with more than 6.4 terabits of data throughput per second, is the largest Internet Exchange in the world.

Taqnia Space Contracts Additional Capacity from Eutelsat to Expand In-Flight Connectivity Services

Saudi Arabia's Taqnia Space (TSC) has signed a multi-year contract with Eutelsat (Euronext Paris: ETL) including incremental multi-transponder wide-beam capacity on the EUTELSAT 70B satellite as well as the fifth HTS spotbeam on EUTELSAT 3B, on which it already operates the four others. This incremental capacity will enable Taqnia Space to add more space assets to its high-density bandwidth coverage over MENA and Europe, and expand for the first time TSC in-flight connectivity services over Central and South-East Asia. New capacities added to TSC aero platform will be utilized as a part of global connectivity package called UON, expected to be launched on the Saudia fleet in the fourth quarter of 2018. Using their personal devices (laptops, tablets and smartphones), airline passengers flying over these regions will be able to enjoy live television, connect to broadband Internet, and benefit from cellular voice or data services on aircraft equipped with TSC aero connectivity solution. Abdullah Al-Osaimi, CEO of Taqnia Space, said: "Over the last few years, in-flight connectivity has become a must-have for passengers looking for an ever-improving air travel experience that allows them to carry on using their digital devices without disruption. By extending the contract with Eutelsat on EUTELSAT 3B and adding new capacity over a wider area through leased resources on EUTELSAT 70B,



we are certain that we can deliver a high-quality response to the exponential requirements of the airlines we partner with and ensure continuous global connectivity service." Rodolphe Belmer, CEO of Eutelsat, concluded: "This agreement marks a new milestone in our relationship with Taqnia Space. It highlights the capacity of our satellite fleet to meet the growing needs of the largest operators in the field of in-flight connectivity and to support the rise of the new norm: being connected everywhere and at all times."

Disposal of Eutelsat's Interest in EUTELSAT 25B Satellite

Eutelsat has sold its interest in the EUTELSAT 25B satellite operated at 25.5 degrees East to the co-owner of the satellite, Es'hailSat, for a consideration of €135 million. Eutelsat's share of the satellite generated FY2018 revenues of c. €16 million in the video application. The divestment of this non-core asset is in line with Eutelsat's strategy of optimizing its portfolio of businesses in the context of its policy of maximizing cash generation. It has no impact on Eutelsat's revenue objectives which are at constant perimeter, and will be absorbed within the Group's EBITDA margin target. The discretionary free cash flow objective excludes the impact of the disposal.

Expresso Telecom Group Partners with RwandaOnline to Duplicate Rwanda's e-Government Portal across Africa

As part of its ongoing strategy to provide new services that will help improve the lives of people across Africa, Expresso Telecom is working with Rwanda Online to showcase the e-Government service developed for Rwanda to other Governments across Central and West Africa.

Expresso Telecom has an exclusive agreement to sell "Irembo", the e-Government platform developed by Rwanda Online as a public/private initiative with the Government of Rwanda.

Launched in 2015, Irembo (which means gateway or door) is a one-stop portal for Rwanda's e-Government services and was specifically designed to provide citizens with an easy and efficient way to access and pay for government services online.

Irembo has so far transformed the delivery and monitoring of 86 public sector services including applying or renewing a passport, applying for a birth certificate, power of attorney, registration for driving license tests and applying for a building permit. Fees for services can be paid using mobile money as well as at regular banks.

Mr. Tarig Rahamtalla, CEO of Expresso Telecom Group, said "We in Expresso Telecom Group recognize ourselves as serious community advocates, who will keep searching for the most optimum solutions to improve our people's lives like never before. In our strategy as African player, we are obligated to promote and facilitate digital services within the public sector. Hence, we understand such effort require strong experienced alliances. It is of immense credit to the people and Government of Rwanda that the country has emerged from a period of such shocking cruelty with a strong spirit of reconciliation.

We signed a partnership agreement with RwandaOnline to offer digital services to our African Governments. "Irembo", the e-government platform built and operated by RwandaOnline has so far more than 86 public services that have been launched and helped in transforming the lives of Rwandan citizens."

Dr. Ivan Twagirashema, CEO of Ngali Holdings which is the holding group of RwandaOnline, said, "On the 8th July 2018 marked another milestone to cross for RwandaOnline since its creation in 2013." "RwandaOnline as a private company fully owned by Ngali Holdings, was initially created to lead the digitization of government services in Rwanda.

This signed partnership memorandum of understanding with Expresso Group comes at the right time when RwandaOnline has reached maturity to be the right technology and business consulting partner to help other African countries in achieving their dreams in implementing and operating eGovernment platforms"

Facebook Launches Express Wi-Fi Partner Program

Facebook has launched a new partner program for its Express Wi-Fi initiative to offer fast and affordable internet access in developing markets. The company has announced the establishment of the Express Wi-Fi Certified partner ecosystem program, as well as the first three vendors to join the ecosystem. Wi-Fi vendors Cambium Networks and Ruckus Wireless as well as switching company Arista Networks have become the first certified partners for the initiative. Access points developed by certified vendors will be designed to help devices better detect registration pages in order to help more devices connect to the networks and allow for data usage to be more accurately measured, in order to make it simpler to offer pre-paid Wi-Fi. Express Wi-Fi aims to help local mobile operators, ISPs and enterprises to offer fast, affordable internet access to customers lacking such access. Express Wi-Fi is currently available in India, Indonesia, Kenya, Nigeria, and Tanzania, through ten partners across the five countries. Consumers typically access the hotspots by purchasing prepaid data packs through participating retailers. "We're excited to launch the Express Wi-Fi Certified program and have Cambium Networks as one of our early partners," Facebook product lead for Express Wi-Fi Guy Mordecai said in a statement. "Through our work with leading Wi-Fi vendors, we hope to expand the Express Wi-Fi ecosystem and accelerate innovation to provide a sustainable business model for fast and affordable Wi-Fi at a meaningful scale."

Google Set to Re-launch in China after 8-Year Censorship Exodus

Google is preparing to relaunch in China, eight years after it quit the country in response to censorship demands imposed by the government. According to news site The Intercept, Google has drawn up plans to launch a mobile based search engine in China. In 2010, Google pulled out of the Chinese market in response to the Chinese government's instance on censoring content its citizens are able to view. At the time, Google felt this was a bridge too far for the company and said that it was unwilling to comply with the state sponsored censorship. However, the company now appears ready to swallow its pride and cash in on China's massive, lucrative market. A raft of western internet sites and services are blocked in China, including Google, Facebook and Watsapp. China's biggest search engine, Baidu, effectively filters out content that is deemed politically sensitive. According to documents seen by The Intercept, state that the new Google search service will filter out websites that are blocked by China's "Great Firewall", as well as black listing certain search terms for banned or illicit content, for which no results will be returned. The documents cited by The Intercept stated that websites that could be expected to have their content censored included the BBC news site and Wikipaedia.

Google Optimizes Search Engine for Swahili Speakers

Google Search has now made it possible for Swahili users to get more contextualized results of people, things and entities that Google already knows about. Swahili is one of the most spoken African languages and Google has now made it much easier for the over 100 million Swahili speakers to search for things they care about. The information is presented to users in an infobox next to the regular strings of search results. "When someone conducts a search, they want answers as quickly as possible. To help Swahili speakers discover new information more easily, we're now making the Google Knowledge Graph available in Swahili," said Christina Lin, product search marketing lead for SSA. She added: "This means that next time you search for President Uhuru Kenyatta under the Kiswahili language setting, you'll instantly get information that's relevant to your query such as President Kenyatta's date of birth, siblings, and children among other biographical details." Launched in 2012, the Knowledge Graph is a search capability that understands real-world entities and their relationships to one another instead of simply listing keywords in unrelated contexts: things, not strings. The Knowledge Graph enables you to search for things, people or places that Google knows about—landmarks, celebrities, cities, sports teams, buildings, geographical features, movies, celestial objects, works of art and more—and instantly get information that's relevant to your query. It is a critical first step towards building the next generation of search, which taps into the collective intelligence of the web and understands the world a bit more like people do. It is not just rooted in public sources such as Freebase, Wikipedia and the CIA World Factbook, it's also augmented at a much larger scale—because Google Search is focused on comprehensive breadth and depth. The Knowledge Graph is currently available in 59 languages, mapping out how more than 1 billion things in the real world are connected, and over 70 billion facts about them. It is tuned based on what people search for, and what we find out on the web, improving results over time.

Huawei Announces Commercial Availability of eLTE-DSA Solution for Building a 4.5G-Based and 5G-Oriented Power Grid Neural Network

Huawei launched the 4.5G-based and 5G-oriented eLTE-DSA (eLTE Discrete Spectrum Aggregation) solution for commercial use, to help global power companies build the "last mile" of the neural network for power grids. As the energy industry is transforming, requirements are changing and the communications network for electric power IoT must provide more comprehensive coverage for a wide range and growing numbers of terminals and devices. Reliable, flexible, ubiquitous, and economically efficient, the wireless private network has become the best means of building the "last mile" of the neural network for power grid. The traditional VHF (30~300MHz) / UHF (300~3000MHz) narrowband discrete spectrum used in the energy industry cannot meet the requirements for power IoT development because it is commonly based on data radio technology, which causes technical bottlenecks due to long-latency, small capacity, insufficient bandwidth, and high power consumption. In China, 230MHz is a discrete spectrum dedicated for the power industry; it is also a VHF narrowband discrete spectrum. This helps to build the large-scale "last mile" of the power grid efficiently, and to construct a world-leading power IoT which Chinese power companies have been trying to explore. As a leading global ICT solutions provider, Huawei has launched this 4.5G-based and 5G-oriented eLTE-DSA solution based on extensive experience in cutting-edge wireless networking technologies, as well as a deep understanding of power businesses. These discrete narrowband spectrums are aggregated to achieve a minimum latency of 20 ms, with a maximum of 4000 users in a cell, and a transmission rate from Kbps to Mbps for a single user. The minimum static power consumption of the module is 0.15w. In August this year, a performance and service verification for Huawei's 4.5G-based and 5G-oriented eLTE-DSA solution was conducted by the China Electric Power Research Institute (CEPRI). The results show that the solution has excellent performance in terms of speed, capacity, security and reliability, and that it can fully meet the intelligent control service requirements, such as precise load control and power distribution automation. The 4.5G-based and 5G-oriented eLTE-DSA solution has strong anti-interference capabilities, as it can run stably in a complex radio environment where data transmission stations coexist. This solution will be put into commercial use on a large scale in China and will first carry mission-critical services such as precise load control, power distribution automation, and collection of power consumption information. Therefore, the launch of Huawei's eLTE-DSA solution is one of the most critical steps in building the private wireless network. At CIGRE 2018 and the Huawei Global Electric Power Summit, the launch of the eLTE-DSA solution for commercial use was jointly announced by Kunlun Gao, Chinese Delegate of CIGRE D2; Sun Zhentao, President of Huawei Enterprise Wireless Product Line; Cui Jinglong, Vice President Huawei Wireless Product Line; and Juncheng Zhang, The Marketing Director of Huawei Enterprise Wireless Business. Meanwhile, Huawei and the NARI Group Corporation jointly demonstrated the functions of the SCADA system, including remote communication, remote control, and feeder automation, based on eLTE-DSA. Sun Zhentao, President of Huawei Enterprise Wireless Product Line, said: "Huawei and the State Grid Corporation of China (SGCC) are jointly innovating in standards, products, R&D equipment, and service tests based on the 230MHz eLTE-DSA solution. Meanwhile, together we actively promote the globalization of eLTE-DSA standards, and will share the technology and best practices of China's private wireless network with the world." Huawei provides electric power industry with one-stop ICT solutions to bring digital technologies into every home and electric power enterprise, and is committed to being the best digital transformation partner for the electric power industry. To date, Huawei's fully-connected grid solution has been implemented by 13 of the world's top 20 power companies, and has been widely used in 73 countries worldwide, serving more than 190 electric power customers, including State Grid Corporation of China (SGCC), E.ON in Germany, and ENEL in Italy.

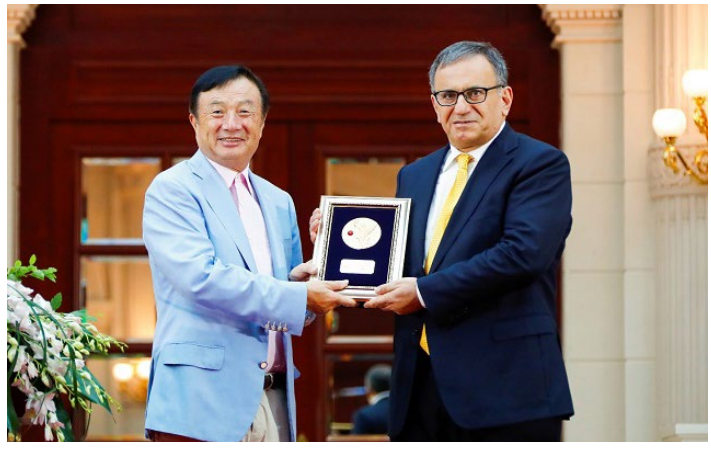
Huawei Set To Unveil Its Next Generation Kirin 980 Chipset

International tech giant, Huawei, could be set to launch its new Kirin 980 chipset at the IFA event in Berlin, later this month. Huawei's rotating chairman, Richard Yu, confirmed this week that the company's forthcoming Mate 20 handset, which is set for release in October of this year, will be powered by the Kirin 980 processor. The Kirin 980 will be 20 per cent faster than its predecessor, the Kirin 970, and will boast enhanced efficiency levels of up to 40 per cent. The chipset's processing core will reportedly perform at up to 2.8GHz. Huawei has enjoyed enormous success with the recent launch of its P20 Pro handset, which has sold by the barrelful in Europe and Asia. The company recently surpassed Apple as the world's second biggest producer of smartphone handsets (after Samsung), and is on course to ship over 200 million handsets in 2018.

Huawei Kicks Off Subsea Project in Baja California

Huawei's Marine and Megacable division has commenced a subsea survey for its Topolobambo – La Paz project in Mexico. The project will bring next generation connectivity and super low latency applications to Baja California, on Mexico's Pacific coast. The challenging subsea topography will put Huawei's subsea expertise to the test, as Huawei Marine's planning design director, Zhaofeng Chen, explains. "With the La Paz project Huawei Marine's technology and service capabilities are once again recognized by customers in Latin America," he said. "The terrain and environment in the Gulf and Peninsula region is complex and places high requirements on the design and construction of the submarine cable. Huawei Marine's rich experience in working on difficult projects around the world will ensure the Topolobambo – La Paz project will be completed smoothly." The Topolobambo – La Paz submarine cable system is a 250km unrepeatered submarine cable system, which utilizes 24 fiber pairs. The system boasts a capacity of 192Tbps and is planned for delivery in Q2 2019. You can keep up to date with all the latest developments in the subsea and submarine industries at the Submarine Networks EMEA 2019 event, set to be held in London on the 12-13 February 2019. Click here to find out how you can be involved in the latest instalment of the event.

Huawei Recognizes Dr. Erdal Arikan for his Dedication to Basic Research and Exploration



Huawei presented a special award to Turkish professor Dr. Erdal Arikan, the inventor of polar codes for 5G, in recognition of his outstanding contribution to the development of communications technology. At the ceremony, held at Huawei's global headquarters in Shenzhen, the company also honored more than 100 Huawei scientists and engineers who are working on standards and basic research. With 5G just on the horizon, the paper on polar codes that Professor Arikan published in 2008 defined an entirely new approach to maximizing the rate and reliability of data transmission. Polar codes are the world's first channel coding scheme to bring us up against the threshold of Shannon's limit, or the maximum rate that data can be sent with zero error at a particular bandwidth. Polar codes significantly improve coding performance for 5G. At the same time, they reduce the complexity of design and ensure service quality. In 2016, 3GPP (the international standards body responsible for 5G standards) adopted polar codes as the official coding scheme for the control channels of 5G New Radio (NR) eMBB interface. At the awards ceremony, Huawei founder Mr. Ren Zhengfei presented a medal to Professor Arikan. After receiving the medal, Professor Arikan delivered an acceptance speech. "I am honored to be here today receiving this award," he said. "It gives me pleasure to acknowledge that, without the vision and technical contributions of Huawei directors and engineers, polar codes would not have made it from lab to a standard in less than 10 years. And as engineers, there is no greater reward than seeing our ideas turn into reality." Huawei Rotating Chairman Eric Xu also spoke at the event: "5G standards are the result of a worldwide effort to drive progress in basic research and wireless communications technology. For these standards to take shape, it took more than 10 years of hard work from tens of thousands of scientists and engineers, along with dozens of companies around the world. We would like to express our sincere gratitude to Professor Arikan, as well as his peers in academia, fellow scientists, and Huawei employees who have all contributed to 5G." In 2010, Huawei recognized the potential in polar codes to optimize channel coding technology, so the company invested in further research to build on Professor Arikan's work. Through years of focused effort, the company has made multiple breakthroughs in core polar code technology, helping polar codes move beyond the realm of academic research and see the light of day. "The birth of 5G standards is only the beginning of a new journey," Xu added. "We will continue to work hard to ensure that 5G technology – including polar codes – creates greater value for society, and sooner. At the same time, we hope that the close collaboration between companies and the academia, like the one between Huawei and Professor Arikan, will continue, and give rise to more scientific marvels that drive the development of the ICT industry and society as a whole." Thanks to their pioneering work, Huawei was the first company in the world to complete 5G testing for all phases of IMT-2020 development, with results that far outperformed the key indicators for all three 5G usage scenarios defined by the International Telecommunication Union – enhanced Mobile Broadband (eMBB), Ultra-Reliable and Low-Latency Communications (URLLC), and massive Machine-Type Communications (mMTC). As a major contributor to 5G standards, and a core patent holder, Huawei is committed to following the FRAND principle for all patent licensing. That means Fair, Reasonable, and Non-discriminatory patent licensing – a principle that the company has adhered to in the past, and will continue to adhere to moving forward. Huawei aims to build a robust 5G ecosystem together with other players. Strong R&D investment has been a core focus at Huawei for years, investing nearly CNY400 billion in R&D over the past decade. Moving forward, Huawei will increase investment in basic research by earmarking 20% to 30% of its annual US$15-20 billion R&D budget to basic research alone.

Huawei Push to Accelerate 5G in Bahrain

Huawei has announced it will implement the new "1+1 antenna modernization" concept and solutions to accelerate the roll-out of commercial 5G networks in Bahrain. The 1+1 antenna modernization concept was developed by the company to address the problems of current antenna systems not being able to support 5G, limited cell tower space and high lease costs. As a key element in mobile networks, antennas will need to receive and transmit on more frequency bands than ever. This means that it would be very hard to simply add new 5G antennas. The proposal involves dual antennas: one passive antenna for all sub-3 GHz frequency bands, and an active antenna for C-band and mmWave. This arrangement will enable carriers to upgrade their antenna networks to 5G readiness in a single step, eliminating the need for duplicated investment or multiple antenna upgrades. According to the company's Bahrain chief executive John Lu Yuedong, "This is a step forward in enabling Bahraini operators to accelerate the arrival of 5G networks and bring digital to every home, person and organization for a fully connected, intelligent world."

Huawei Bahrain subnet solution vice-president Shui Yu said: "Huawei's antenna solution helps operators consolidate the number of 2G, 3G, and 4G antennas, paving the way for large-scale 5G deployment. At the same time, the antenna reconstruction greatly improves the aesthetics of the tower antenna and reduces visual pollution. Multiple operators can share towers, poles, and even antennas to maximize resource utilization, reduce the cost of sharing rent, and optimize the civil engineering cost."

Celcom Partners Huawei to Apply Cloud-based Digitized Operation Platform

Celcom Axiata Bhd inked an agreement with Huawei Technologies (Malaysia) Sdn Bhd to apply the Cloud-based Digitized Operation Platform, Software as a Service (SaaS) solution. Celcom will be the first in the country to adopt full suite Cloud-based Operation Support Service (OSS) system to accelerate agility in their automation and intelligence of network management, and pave the way for their journey towards becoming a digital company. The Digitized Operation Platform brings together Artificial Intelligence (AI) and Machine Learning technology powered by Huawei's Operation Web Services (OWS) suite, to enhance Celcom's capabilities in managing increasingly complex networks and services. It also enables Celcom to transform their daily operations from reactive to proactive and predictive, and further solidify their drive to deliver an awesome customer experience. The agreement to acquire the platform for Celcom's network operation was signed by Celcom Axiata chief technology officer Amandeep Singh and Huawei Technologies (Malaysia) chief executive officer Baker Zhouxin. It was witnessed by Celcom Axiata head of procurement Bassaharil Mohd Yusop and Huawei Technologies Co Ltd president Tang Qibing. Through this partnership, Huawei aims to leverage on its Digitised Operation AUTomation & INtelligence Services Solution (AUTIN), and share global experiences with Celcom to achieve a visualized, automated and intelligent network operation. Amandeep said that the partnership signifies Celcom's ongoing commitment in delivering the best network experience to the customers. "Celcom will constantly continue the evolution of its network with the latest technologies to bring an awesome experience for Malaysians. It is critical that we explore the capabilities of new generation technology with global partners like Huawei. "The Digitized Operation Platform will increase Celcom's efficacy in managing our daily operations, readiness in managing potential issues and continuous improvements in our network," he said. Tang said, "I'm glad that Celcom chose Huawei as a partner in its digital transformation journey. We certainly hope that Huawei's AUTIN solution will accelerate Celcom's transition from traditional operations with repetitive manual processes into automated operations. "Our vision is to build an ecosystem with strategic partners like Celcom, third parties and other industries to unlock incredible value through new services and innovations, which will ultimately benefit everyone in the telecommunications industry."

Huawei Launches HCNA-AI to Bridge the Talent Gap in the Industry

Huawei held a conference on its newly launched HCNA-AI in Beijing. The announcement of the Huawei's AI engineering certification is the first step for the Chinese multinational to build an artificial intelligence talent certification system. With the theme "Never stop learning, create the future with AI", Huawei welcomed more than 100 educators, academic experts, Huawei training partners, university professors, students and AI technology enthusiasts. This new certification designed for tech professionals aims to promote the artificial intelligence technology and industry through talent development, and it will ultimately facilitate technological progress of enterprises looking to make an impact in the digital economy. Bradd Feng, Director of the Global Training & Certification Dept. of Huawei Enterprise BG, said: "With the national artificial intelligence development strategy, we are facing the challenges of a growing talent demand; Huawei in cooperation with world-renowned universities and industry experts have carried out a new layout for talent training. This new professional certification with the updated college curriculum will stimulate a stronger talent supply and will allow professionals to access a new world of opportunities." Professor Wang Wanliang, dean of the School of Computer Science and Technology at Zhejiang University of Technology, pointed out: "the launch of the AI engineering certification by Huawei is a revolutionary milestone in the training of the AI domain. As a tech leader involved in the academic community, we are looking forward to see that Huawei continues to develop the AI professional program certification and bridge the gap between academic institutions and enterprises by providing on-going training to college students and IT professionals." Professor Wu Fei, deputy dean of the School of Computer Science of Zhejiang University and director of the Institute of Artificial Intelligence, in its "Artificial Intelligence Cross-disciplinary Talent Training" presentation explained: "Artificial intelligence is an independent field of study, but at the same time, it encompasses cutting-edge technologies and various disciplines. The interdisciplinary nature of this field requires cross-disciplinary skills; universities should cooperate with enterprises to build artificial intelligence innovation and bring together multifaceted talents." Zhang Zhifeng, chief architect of Huawei's artificial intelligence certification, introducing the certification structure concept said: "Huawei's artificial intelligence engineering certification offers fundamental knowledge of artificial intelligence and provide industry-specific applications. " The HCNA-AI learning material provides the basic mathematics and machine learning knowledge necessary for deep learning. At this level, the students will be guided to gradually understand the related techniques of deep learning, such as, convolutional neural networks, cyclic neural networks, regularization, optimizers, etc., and introduce deep learning in applications areas, such as, computer vision, speech recognition, and natural language processing. HCNA-AI uses the mainstream TensorFlow framework and supports Keras (a high-level neural network API, Theano/TensorFlow-based deep learning framework written in Python), which is widely used, powerful, and has excellent compatibility and timeliness. The experimental environment of the HCNA-AI certification course can be accessed to the ECS (Elastic Cloud Server) on the Huawei Cloud, and then installed according to the manual. The installed environment will have a separate IP, username and password, so that students will be able to log in to the lab environment and learn any time with a network connection. The HCNA-AI certification program offers programming exercises, including image recognition battle, speech recognition contest and human-machine dialogue, so that students can practice what they have learned. At present, there is a huge talent gap in the artificial intelligence field. Huawei as technology leader actively takes action to attract top talent and develop an ICT professional community by providing an ecosystem for learners across the globe. To address the tech skills gap and to meet the needs of various industry, Huawei will officially release the complete AI development strategy and talent development plan at HUAWEI CONNECT in Shanghai this coming October. Facing future challenges, Huawei will build a sound talent ecosystem and continuously output high-quality ICT talents for the industry through a global influential ICT certification system; deepen university-enterprise cooperation to promote talent development and innovation by co-building Huawei ICT Academy; help achieve efficient match of talent supply and demand to bridge talent gap by holding Huawei ICT Competition and Huawei ICT Job Fair in the world wide, and ultimately, promote the healthy and sustainable development of ICT industry.

Mobily and Ericsson Showcase 5G in Saudi Arabia

Telecom operator Mobily, and Ericsson have showcased the awesome power of 5G at a live test session at the Mall of Arabia in Jeddah, KSA. During the live trials, shoppers were able to experience the high speed and ultra-low latency that next generation mobile networks will deliver when they are rolled out in Saudi Arabia in early 2019. For the live test environment, Ericsson supplied Mobily with a standalone end-to-end 5G system, including a prototype 3.5GHz radio, baseband, and prototype UE device for which showcased speeds of up to 1Gbps. The demo is part of a campaign by Mobily to highlight the benefits of 5G to consumers and businesses across the Kingdom. 5G is set to play a key role in Saudi Arabia's 'Vision 2030' strategy which seeks to pivot the country's economy away from its current reliance on oil and cultivate a more diversified economic platform for the country. "We are wholly supportive of Saudi Vision 2030 and the push towards enhancing our digital economy. Our investment in 5G is demonstrative of our commitment to improving network performance and enhancing the customer experience across Saudi Arabia. Our partnership with Ericsson enables us to provide a state-of-the art scalable network to serve consumers and industries across Saudi Arabia now and in the 5G future," said Mazid Al Harbi, CTO of Mobily. Saudi Arabia, the UAE and Qatar are currently locked in a race to the finish line, to see who will be the first to rollout fully commercialized 5G networks in the GCC region.

Verizon, Nokia Complete 5G NR Mobility Call

Verizon and Nokia announced they were able to achieve a key milestone on the road to 5G: handing off a signal seamlessly to a vehicle traveling between two radio sectors. The test took place at Nokia's Murray Hill, N.J., campus. A data transmission at 28 GHz was sent from two 5G New Radio (NR) radios on a Nokia building to a vehicle outfitted with a receiver and equipment to measure transmission statistics. The vehicle traveled between the two radios, achieving seamless 5G NR Layer 3 3GPP-compliant mobility handoff of the signal between the two sectors, intra-gNB and inter-DU, according to the companies. Clearly, pretty much every carrier and vendor is claiming some kind of first when it comes to 5G. Verizon said this test with Nokia—also a first—follows the companies' completion of a series of outdoor data sessions over the 5G NR standard and multi-carrier aggregation to boost those signals into Gigabit range, also both industry firsts. But this, of course, is not your run-of-the-mill first. "Unlike some of the incremental 5G technology announcements we've seen lately, tests like the one we conducted are significant advancements in the development of 5G technology," said Bill Stone, vice president, Technology Development and Planning for Verizon, in a press release. "By taking these tests out of the lab and into the field, we're replicating the experience users will ultimately have in a 5G mobility environment." "We are pleased to showcase the acceleration of the mobile capabilities in 5G," said Marc Rouanne, president, Mobile Networks, Nokia, in the release. "Enhanced mobile broadband is one of the first services being delivered on Nokia's end-to-end 5G Future X portfolio. As a result, we can help our customers meet their early 5G deployment schedules and initial coverage demands." Indeed, much of Verizon's focus initially for 5G has been on fixed wireless access, positioned as another way to get a fast internet connection into the home. But it also needs to deliver on the mobility side of 5G. The company plans to be the first to launch 5G residential broadband service in four markets this year, followed by a mobile 5G solution. The four markets for this year are Los Angeles, Houston, Sacramento and Indianapolis. Verizon CEO Hans Vestberg told CNBC the operator is going to be first in the world with 5G. "We are building everything right now," he said, with 5G mobile phones due in the hands of consumers next year.

Nokia, China Mobile Complete Single User 5G Test

China Mobile, the world's largest operator, and Finland-based Nokia claimed a 5G first after completing a single user downlink test using a third-party device. In a joint statement the companies said they achieved a peak data rate of 1.4GB/s in the trial, which conformed with 3GPP-compliant 5G New Radio (NR) specifications and used a device from Prisma Telecom Testing. Nokia provided 5G NR massive MIMO equipment and 3GPP-compliant software on a 5G base station. Yuhong Huang, Deputy GM of China Mobile Research Institute, said: "We're satisfied with the test result. In the future, we'll work closely with our domestic and international partners, [for example] Nokia, to accelerate the commercial deployment of 5G and ensure the technology will be widely used in the industries." Enrico Bendinelli, chairman of Prisma Telecom Testing said: "With our capabilities in 5G, we're confident we can provide fast, efficient wireless network access tests to the CSPs [communications service providers] and the equipment vendors to accelerate the deployment of 5G and equipment verification."

Nokia Gets EUR 500 Million Loan from EIB for 5G Development

Nokia signed a EUR 500 million loan transaction with the European Investment Bank (EIB), supported by the European Fund for Strategic Investments (EFSI), a key element of the Investment Plan for Europe, also known as the Juncker Plan. Nokia will use the loan to further accelerate its research and development of 5G technology, the next-generation mobile telecommunication standard. The EFSI-supported loan from the EIB supports a key European technology provider, Nokia that invests heavily in research, development and innovation (RDI) in an area which can produce enabling technologies for innovation and growth in Europe. 5G technology is expected to enable faster speeds, massive connectivity, decade-long battery life for sensors and super-responsive and reliable networks for customers. This could power on-demand virtual reality (VR) and augmented reality (AR) experiences, driverless vehicles, medical monitoring, advanced industrial automation services, and other applications – all requiring ubiquitous, low-latency connectivity. Nokia's end-to-end network proposition goes from the radio network to the internet protocol (IP) and optical networks for transmission, the packet core network, service platforms and all the software and services associated with the whole system. In essence, Nokia's portfolio covers all the needs of a telecom operator that wishes to provide fully converged fixed-mobile communications services critical for the era of 5G. "5G is happening fast, faster than most people even expected. It's anticipated that it will enable entirely new business cases, while dramatically enhancing existing wireless applications. I think bringing 5G to the market will definitely improve people's lives, as the motto for the EIB's 60th anniversary states," said EIB Vice-President Alexander Stubb, responsible for lending in Northern Europe. "We are pleased to land this financing commitment from the EIB, who shares our view of the revolutionary nature of 5G – and the realization that this revolution is already underway. This financing bolsters our 5G research efforts and continues the broader momentum we have already seen this year in terms of customer wins and development firsts, supporting our relentless drive to be a true leader in 5G – end-to-end," said Nokia CFO Kristian Pullola. "Ensuring that Europe embraces and benefits from new technologies requires sustained investment. That is where the Investment Plan for Europe can play a crucial role. I am delighted that, with today's agreement, the Plan is contributing to Nokia's research and development activities across multiple European countries to advance the development of 5G technology," said European Commission Vice-President Jyrki Katainen, responsible for jobs, growth, investment and competitiveness. The loan, which extends Nokia's debt maturity profile, has an average maturity of approximately five years after disbursement, which can take place at any time during the next 18 months.

Nokia Reveals Licensing Charges for Access to its 5G Patents

Finnish tech giant Nokia has revealed that it expects to charge 5G smartphone vendors €3 per device in order to access its various 5G patents. Nokia said that it expects to hold a number of key 5G patents by the time 5G smartphones begin to find their way on to the market in the first quarter of 2019. "Nokia innovation combined with our commitment to open standardization has helped build the networks of today and lay the foundations for 5G/NR," said Ilkka Rahnasto, head of Patent Business at Nokia. "This announcement is an important step in helping companies plan for the introduction of 5G/NR capable mobile phones, with the first commercial launches expected in 2019." Nokia's investment in 5G research and development has given it a sizable portfolio of standard essential patents (SEPs). In a statement issued to the press, Nokia said that it would honor the applicable property rights policies and was granting access to its intellectual property on fair, reasonable and non-discriminatory terms. "Beyond mobile phones, Nokia believes that there will be an unprecedented variety of end user devices that will use Nokia innovation," Nokia said in a statement to the press. Nokia intends to lay out the details of patent licensing fees for its non-smartphone related devices at a later date.

Nokia's Cloud-Native Core Deployed by India's Idea Cellular in its Path to Digitalization

Nokia's cloud-native core technology is being deployed by Idea Cellular in Delhi, the capital of India, as part of the operator's transformative steps toward digitalization to meet increasing data demand and mobile broadband growth. The Nokia technology will allow Idea to run both data and voice services on a common cloud platform, significantly reducing operational cost and time-to-market and providing better quality of service for its subscribers. Part of Nokia's AirGile portfolio, a modular software architecture built with cloud-native products and capabilities, Nokia's cloud core brings Idea both packet and voice core on a common cloud platform. Adding the cloud platform enhances automation capabilities, such as lifecycle management, higher scalabilities and capacities, thus bringing greater operational benefits to Idea's network. Adaptation to a Nokia cloud core will enable Idea to rollout new deployments, scale faster and adopt a delivery model that meets customer demands for enhanced mobile broadband, improved latency, and accelerated time-to-market for new services. Driven by demand for a unified infrastructure, Nokia's proven cloud-native Cloud Packet Core solution, including its Cloud Mobility Manager, and Cloud Mobile Gateway deployed on CloudBand, are key enablers in Idea's transformational journey from bare-metal to a cloud core architecture. Combined with the introduction of Nokia AirFrame servers, Idea's network is ready to address the demands of high density data center and cloud computing environments. Anil Tandan, Chief Technology Officer at Idea, said: "As India prepares to define its path to 5G, we at Idea are building the foundation by adding Nokia's cloud core capabilities. This deployment will allow us to deliver a best-in-class network experience to our subscribers and significantly reduce the time required to introduce new services." Nitin Dahiya, head of the Idea customer team at Nokia, said: "Our cloud-native core solutions allows Idea to address the growing demand for both data and voice services to continue to evolve our business model and services. It further leverages the advantages of Nokia's AirGile portfolio, to add flexibility and agility to the network. It is our privilege to partner with Idea in its journey towards digitalization." Nokia Cloud Packet Core enables the profitable delivery of enhanced broadband, Internet of Things (IoT), and machine-type communication (MTC) services while evolving to a 5G Core. Nokia Cloud Mobile Gateway provides the flexibility, performance and scale for enhanced mobile broadband and also for 5G in the future Nokia Cloud Mobility Manager delivers the network signaling capacity required for the increasing number of subscribers, connected devices, and new network applications. Nokia CloudBand, an open and modular ESTI standard MANO solution, adds agility and flexibility to the network allowing service providers to scale faster.

Nokia signs $3.5 billion 5G deal with T-Mobile

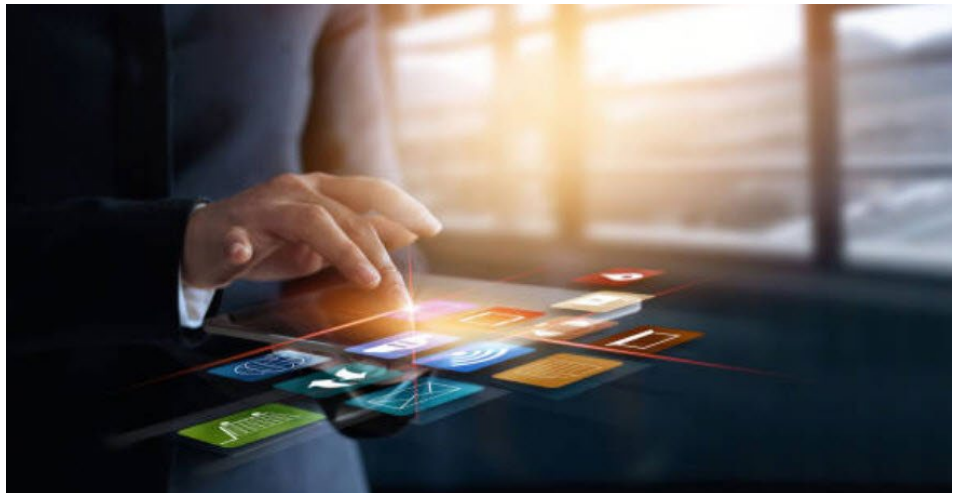
Nokia is set to provide US mobile operator T-Mobile with its complete 5G technology software and services portfolio, as part of a $3.5 billion deal, signed to speed up the rollout of 5G mobile networks in the US "We are all in on 5G," said Neville Ray, chief technology officer at T-Mobile. "Every dollar we spend is a 5G dollar, and our agreement with Nokia underscores the kind of investment we're making to bring customers a mobile, nationwide 5G network. And together with Sprint, we'll be able to do so much more." The agreement will see Nokia working on T-Mobile's nationwide network, which will initially use spectrum in the 600MHz and 28GHz band, utilizing 3GPP 5G New Radio standards. "Nokia and T-Mobile will advance the large-scale deployment of 5G services throughout the United States," said Ashish Chowdhary, chief customer operations officer, Nokia. "This is a testament to our companies' strong and productive working relationship, one which has produced several important technological milestones in recent months, and which now allows us to make 5G a commercial reality." The USA will be amongst the first countries in the world to rollout fully commercialized 5G networks, with some operators aiming at multiple city rollouts before the end of 2018.

Exercises with Stock Options of Nokia Corporation

Based on Nokia Corporation's 2011 Stock Option Plan a total of 12 500 Nokia shares were subscribed for between May 30 and July 27, 2018. The subscription price was EUR 2.35 per share. The total amount of the subscription price, EUR 29 375.00, will be recorded in the fund for invested non-restricted equity and, consequently, the share capital of the company does not increase. The new shares carry all the shareholder rights as of the registration date August 2, 2018. The shares are expected to commence trading in Nasdaq Helsinki as of August 3, 2018, and in Euronext Paris as of August 6, 2018, together with other Nokia shares (NOKIA). Euronext Paris will publish a notice announcing the admission to trading on Euronext Paris of the new shares. The amount of Nokia shares after registration of the shares in the Trade Register is 5 631 519 159 shares.

Marvel Media Partners with SLA Digital to Expand International Reach with Carrier Billing

Marvel Media has partnered with SLA Digital to extend their carrier billing coverage across the Middle East and Asia. Established in 2010, Marvel Media is focused on providing mobile entertainment services to their customers with the aim of enhancing their digital lifestyle through video, games and other applications. The carrier billing partnership is now live across several mobile operators in the Middle East with plans to further leverage SLA's mobile operator coverage across the region. Carrier billing has given Marvel Media the opportunity to access a greater number of potential customers who previously may not have been able to access their services. The simple and secure payment option is an alternative to traditional payment channels like debit and credit card, enabling customers to make purchases by charging digital services to their mobile account. Ashley O'Kane, Head of Marketing at SLA Digital commented, "Through our partnership, Marvel Media have been able to gain access to new markets in the Middle East through a single connection into our carrier billing platform. We look forward to continuing this relationship with Marvel Media and driving new business for all involved."



Mobile Arts Launches Direct Carrier Billing with SLA Digital

Mobile Arts, a technology provider in the Middle East, has partnered with SLA Digital to further grow their revenues with Direct Carrier Billing for their premium gaming and utility applications. Direct Carrier Billing (DCB) is an alternative digital payment channel to traditional forms of payment like credit and debit card. The solution is seamless, secure and offers a user-friendly customer experience. Customers add transactions to their monthly mobile bill or deduct from their prepaid credit. Ashley O'Kane, Head of Marketing at SLA Digital commented, "By leveraging Direct Carrier Billing, content providers like Mobile Arts are able to quickly and easily enter new markets and access a large pool of potential customers." Rabih Jreish, Business Development at Mobile Arts commented, "Having the right Direct Carrier Billing partner like SLA Digital, we can help merchants and content providers to quickly and easily start in-app subscriptions in new and existing markets. Our innovative solution, "APP-IT UP", converts any content portal to a mobile application-based subscription product by integrating our smart SDK." SLA Digital continues to work with Mobile Arts on expanding its connectivity through SLA Digital's portfolio of Mobile Operators across the Middle East and Asia.

Tech Mahindra Teams Up with Microsoft to Curb Spam Calls

Software major Tech Mahindra announced its partnership with Microsoft to create a Blockchain-based solution to fight the spam call menace. According to the Telecom Regulatory Authority of India (TRAI), unsolicited commercial communication (UCC) or spam calls are a major nuisance to telecom subscribers across the country. TRAI has been working with industry stakeholders to curb this menace. "Blockchain as a technology is a powerful tool to combat the issue of spam calls and fraud risks, to protect user information, as well as the integrity of the telecom sector," Rajesh Dhuddu, Global Practice Leader of Blockchain at Tech Mahindra, said in a statement. "This Distributed Ledger Technology (commonly known as Blcokchain)-based solution will enable enterprises to stop financial frauds and perpetration of misleading financial information by unregistered telecom marketers who rampantly use the SMS service of telcos," Dhuddu added. The solution will bring all the relevant parties in the ecosystem onto Blockchain, helping telecom service providers and telemarketers take care of preference registration and consent acquisition — which are in line with the tenets of the TRAI regulation. Built on Microsoft Azure platform, the solution will be a shared, secured ledger of UCCs distributed across a network of computers, which will ensure a transparent and verifiable system to help companies mitigate UCC on their networks, Tech Mahindra said. "The intersection of Cloud and Blockchain will ensure a new way of monitoring and enforcing compliance throughout the ecosystem," said Prashant Shukla, National Tech Officer, Microsoft India. "Through this solution we will be able to help service providers be compliant with the new (TRAI) regulation," Shukla said. "With a Microsoft Azure Blockchain-powered solution, we will ensure that we mitigate loopholes used by fraudsters and spammers to reach end users," Shukla added.

Tech Mahindra and Nucleus Vision Announce a Strategic Partnership to Implement Blockchain in Retail and Telco Space

Tech Mahindra, a leading provider of digital transformation, consulting and business re-engineering services and solutions announced a strategic partnership with Nucleus.Vision (NV), India's biggest blockchain company, at the International Blockchain Congress, (IBC), at Hyderabad. Tech Mahindra will provide the technology expertise to broaden Nucleus.Vision's business reach, and will leverage its telecom affiliates to promote the offering at a global level. This strategic partnership marks the beginning of Nucleus.Vision's global expansion strategy and Tech Mahindra's foray into the blockchain market. Founded in 2014, Nucleus.Vision has made great inroads in the Indian retail market with this new technology, an Internet of Things (IoT) and Blockchain (BC) based customer identification platform – ION which is being implemented for the first time in India. NV has already on boarded marquee retail clients such as Tata Croma, Shoppers Stop, Future Group, Bestsellller, Globus and several others on pilot projects. Nucleus.Vision is one of the few companies in the blockchain space offering this technology, which allows brick-n-mortar retailers to identify any customer who walks into a store, in real-time, using Nucleus' proprietary (patent pending)

sensor technology. ION sensors do not depend on any RFID, WiFi or Bluetooth, or even facial recognition technologies to operate. Nucleus empowers retail stores with the intelligence layer of customer data that was till date only limited to online e-commerce experiences. CP Gurnani, CEO & MD, Tech Mahindra said, "We are happy to announce a robust collaboration with Nucleus Vision to foster innovation and growth in the Blockchain space. This collaboration is a testimony of Tech Mahindra's commitment to enable, guide and support start-ups and companies leveraging next gen technologies. The aim of this partnership is to harness Blockchain led innovation, and to channelize it globally, by giving access to our vast and expansive customer ecosystem." Abhishek Pitti, CEO, Nucleus Vision said, "Our product is highly customizable and has use cases across several verticals. We have proven its use and benefit in the retail space, and by having this partnership with Tech Mahindra, we will be reaching out to a vast and global network. Their global telecom affiliate partnerships is perhaps one of the biggest networks in the world, and this partnership will enrich the overall Nucleus Vision ecosystem in a phenomenal way."

Tech Mahindra to Roll out 5G Pilot Projects Next Month

Tech Mahindra Ltd expects to launch about five pilot projects on 5G services by next month and execute big projects on the new generation network from 2019-20, said a top executive of the software services firm. "My personal belief is that by September, we would launch (5G pilot projects). Tech Mahindra will be launching its complete service offerings along with its partners," said Tech Mahindra CEO C.P. Gurnani in Hyderabad. "We expect within this financial year to do about five 5G trials and hopefully in the financial year, starting April 1, 2019, we will be executing some big projects," he added. "My (Tech Mahindra's) appetite is very, very large and the opportunity of 5G is very large." Gurnani also said Tech Mahindra hopes to garner over $100 million as revenues from blockchain technology during the current fiscal. "By the year-end, I would think is that it will become significant (revenues) by my standards. That means I am talking of $100 million+. By somebody else's standards it may not be significant.... We are in 90+ countries. Tech Mahindra is going to spend a lot of its energy and time on skill development. We don't have a India-based platform for blockchain. China has Neo. Korea has its own. Why would not we have our own?" said Gurnani. Tech Mahindra has a R&D team of about 150 engineers in Hyderabad and Bengaluru. It recently said it would invest 100 million Canadian dollars over the next five years on a Centre of Excellence based out of Toronto, which would work on Artificial Intelligence and Blockchain. It also signed a MoU with the Telangana government for setting up India's first "blockchain district" in the state.

Umniah's Entrepreneurship and Innovation Incubator "The Tank" Follows Blockchain's Latest Technology

Umniah, through its entrepreneurship and innovation incubator, The Tank, sponsored the event "Blockchain Technologies & Internet Governance" organized by the Information and Communications Technology Association (Int@j), in cooperation with the Internet Society - ISOC. The event was under the patronage of the Governor of the Central Bank of Jordan, Dr. Ziad Fariz, and was held at the Hyatt Amman Hotel. This is not the first event The Tank takes part in, as it also held a similar seminar for entrepreneurs and startups benefiting from incubating services. The event is part of Umniah's mission to promote a culture of digital economy as an engine for growth in Jordan by using one of the world's leading "Blockchain" digital assets, creating a platform for future technology and for all digital, encryption, financial and economic projects. "Our sponsorship of this valuable event is due to the importance of new concepts and their role in spreading a culture of digital economy," said Zaid Ibrahim, Umniah's Marketing Director. "We always like to take part in any opportunity that helps spread this culture and thus contribute to the overall economic development." Ibrahim also mentioned that Blockchain will revolutionize the Internet of Things in many economic sectors such as banking, health, information security, global supply chains, transport, insurance, energy, real estate and more. It will also help companies use new methods to treat and process digital transactions, such as payment systems and digital and financial currencies. Ibrahim further explained that Blockchain, will create a revolution within the industrial revolution for its endless effects on all sectors. This calls for all countries to enact laws to govern the internet and facilitate the use of this modern technology. Hosting this activity is a testament to The Tank's keenness to adopt the latest technological developments in the local market through seminars, conferences and workshops, and transferring them to all entrepreneurs within the incubator, Ibrahim stated. He went on to mention that such an event plays an integral role in stimulating and supporting the spirit of initiative and creativity in Jordan." Moreover, Int@j Chairman Dr. Bashar Hawamdeh thanked Umniah for its support of the event, stressing that Int@j is always seeking real platforms to raise awareness of the most important techniques used in the world. He pointed out that Int@j continues to work within a leading approach to discuss the most important topics that the world has already begun to implement. Since its official launch in 2014, The Tank has provided a valuable environment for startups and entrepreneurs, as well as innovative and creative business solutions.

VIVA Bahrain Expands Global Network Footprint

VIVA Bahrain, Bahrain's leading telecommunications service provider, has expanded its global network footprint with the deployment of new points-of-presence (POPs) in Europe, across London and Frankfurt. Through this network deployment, VIVA Bahrain will support the growing demand of its wholesale and enterprise customers across the GCC and other international markets with high-quality networking services – IP, capacity, voice and signaling coupled with lowest possible latency, said a statement from the company. VIVA's investment into the new POPs has been spurred by rapidly increasing requirements of its business customers in Bahrain with presence across the region and globally, looking for high-quality network performance, a diverse range of services that are secure, reliable, flexible and cost-effective and support their business needs. With the POPs deployment in London and Frankfurt, considered major financial hubs and busiest centers for Internet traffic in the world, VIVA customers will have access to direct and reliable connectivity through its key partnerships with tier-1 regional and global network carriers. They will experience an unparalleled combination of low latency, world-class service and latest technology that is currently unavailable with other telecom operators, VIVA Bahrain said. "The POPs expansion is a significant and strategic addition to VIVA's global infrastructure to cater to the heightened demand for optimal connectivity services with high capacities and low latency for companies doing business in the European market," said VIVA Bahrain Chief Executive Ulaiyan Al Wetaid. "With this, we will be ensuring our comprehensive suite of network solutions at affordable and competitive offers that are readily available to our existing and growing business customer base to provide them with an enhanced level of service and customer experience. "With a focus on expanding our presence across other regions, we will continue with our ongoing investment in strengthening the overall infrastructure to meet global needs of our business customers across Bahrain and international markets," Mr. Al Wetaid added.

Yahsat Completes Thuraya Acquisition

Yahsat, a leading global satellite operator based in the UAE and a wholly-owned unit of Mubadala Investment Company, has completed the acquisition of a majority and controlling stake in the mobile satellite services operator Thuraya. Ali Al Hashemi, who has led Yahsat Government Solutions, Yahsat's specialised unit fulfilling defence and governmental client requirements, for the past few years, has been appointed as the new CEO of Thuraya, while former CEO Ahmed Al Shamsi will remain as an advisor to the CEO. Al Hashemi will at the same time continue to be the general manager of Yahsat Government Solutions. Commenting on the Thuraya acquisition, Masood M Sharif Mahmood, CEO of Yahsat, stated: "The Thuraya acquisition provides us with an ideal opportunity to grow and diversify our business, bolstering our satellite solutions capabilities on both government and commercial fronts. "By integrating the portfolios of the two companies under the leadership of Ali Al Hashemi, we will together be able to offer a comprehensive mobile and fixed satellite services portfolio, further strengthening our value proposition to our customers. We are excited about growing together and understanding how we can work in unison, share new ideas, and ultimately serve our customers better." Yahsat has also named Marcus Vilaça as Thuraya's chief technical officer. He will continue his role in Yahsat as the chief technical officer in addition to his newly announced role in Thuraya. He brings over 35 years of experience in the satellite industry, acquired from Embratel, SES, Inmarsat and Yahsat, importantly bringing invaluable experience from the mobile satellite services sector. Shawkat Ahmed has been appointed as Thuraya's chief commercial officer succeeding Rashid Baba's tenure as Thuraya's acting chief commercial officer. Ahmed has over 22 years of experience in satellite communications attained through occupying senior commercial leadership roles in Yahsat, Thuraya and Telstra V-Comm. The acquisition of the UAE's first homegrown satellite operator, Thuraya, is set to significantly expand Yahsat's current satellite solutions portfolio on both commercial and government fronts and creates a strong platform to capture the growing opportunity around IoT and M2M applications across both sectors. Thuraya's two satellites, serving over 160 countries, will join the Yahsat fleet, expanding the group's satellite fleet to five. The combination of geostationary satellites operating in the C, Ka, Ku and L-bands will jointly cover Europe, Africa, the Middle East, South America, and Asia, providing a broad range of Fixed and Mobile Satellite Services spanning voice and data communications to both commercial and government sectors.

REGIONAL NEWS

UAE Mobile Spend to Reach AED20 Billion (USD5.4 billion) by 2019

UAE residents are increasingly opting to shop on their smartphones with mobile spending set to grow 26 per cent between 2018 and 2019, reaching Dh20 billion, according to a survey. The momentum in mobile spending is expected to continue till 2020 with a further 25 per cent growth, according to the findings of a report compiled jointly by PayPal and Ipsos. "With some of the highest levels of smartphone penetration globally, it is unsurprising that the smartphone is the device of choice for online shopping in the UAE," said Efi Dahan, general manager for Eastern Europe, the Middle East and Africa, at PayPal. "We see m-commerce [mobile phone shopping] as the driving force in online transactions as people increasingly want to make a transaction, wherever and whenever they choose, through their mobile device," he said. With many young and affluent customers, deep internet penetration and advanced logistics network, the Middle East's e-commerce sector is growing faster than anywhere else in the world. As of March this year, internet penetration in the region was 64.5 per cent, higher than the global average of 54.5 per cent, according to Statista. Mergers and acquisitions in the sector have also picked up pace in the past year after Amazon acquired Souq.com for $650 million in 2017. The joint report, which was released on Wednesday, predicts overall online spending will continue to grow in the UAE to reach Dh36bn by the end of 2018. Almost half of the adults surveyed (49 per cent) said they will spend more online in the next year. Another 37 per cent indicated they intend to increase or start shopping on marketplace websites. An online marketplace is an e-retail website where products are offered by various third parties, while transactions are processed by the website operator. "The UAE's commerce revolution is well under way and, backed by the country's diverse and truly global population plus improving logistics services, consumers are increasingly looking internationally to source their favorite products and services," said Mr. Dahan. In the survey, the US was cited as the most popular cross-border online shopping destination for UAE shoppers, followed by India and China.

Bangladesh to Provide Broadband Internet to 626 Educational Institutions

The government plans to provide high-speed broadband internet connections to all public universities, colleges and training institutes as part of its 'Digital Bangladesh' initiative. Posts and Telecommunications Division sources say the Tk44.98 crore project is expected to be accomplished within the next year, reports UNB. They say 626 government colleges, universities and training institutes will get uninterrupted broadband internet connection. For the connections, 1,041km fiber optic cable must be laid. Government officials say the internet connections will help every student to catch up with global trends. Posts and Telecommunications Division had initially sought a Tk24.9 crore budget to provide broadband connections to 437 institutions between March 2018 and February 2019. The proposal was later modified in April to accommodate 626 institutions, at a cost of Tk44.98 crore. The project duration has then been revised which is from July 2018 to December 2019. Telecom and ICT Minister Mustafa Jabbar said he directed Bangladesh Telecommunications Company Limited to show progress on the project by September this year. He said the project is very important for achieving 'Digital Bangladesh'. "The internet will enable our students to cope with the global learning practices and they will not fall behind and be progressive," he told UNB. Sources at the ministry said the progress will gain pace once a project director is recruited. The recruitment will take place within the next couple of months. The government has already taken initiatives to set up broadband internet connection across all the district cities, upazila towns and union parishads.

Etisalat and Ericsson Trial Massive MIMO Technology in the UAE

Etisalat and Ericsson have successfully conducted a live on-air trial of Ericsson Radio System and Massive MIMO technology in the United Arab Emirates, paving the way towards 5G deployment. As one of Ericsson's key New Radio (NR) technologies, Massive MIMO has enabled the launch of Antenna Integrated Radio (AIR) 6468 on the Etisalat UAEnetwork. Etisalat has been able to test the benefits of Massive MIMO in real-life scenarios with the advanced NR Radio and Baseband (which are 5G ready) and the latest 5G Plug-Ins software. The trial was conducted in the dense and high-traffic urban environment of Dubai Marina. This is an ideal environment for testing and deploying Massive MIMO. This trial helps in evaluating the benefits of the technology and determines optimal deployment scenarios. Saeed Al Zarouni, Senior Vice President, Mobile Network, Etisalat, says:"As a global pioneer of telecommunication services, Etisalat UAE is pleased to partner again with Ericsson, on a live on-air trial of the new Ericsson Radio System with Massive MIMO technology capabilities, these newly developed cutting-edge 5G plug-ins will further enhance the experience on our radio network platform for our customers in the near future. Our latest partnership with Ericsson strengthens our commitment to our society by offering early deployment of 5G services, these plug-ins will pave the way for key UAE Smart Government Strategy pillars, such as Artificial Intelligence." Nishant Batra, Head of Product Area Networks, Ericsson, says: "At Ericsson, we are dedicated to being a world leader in 5G, enabling our clients to use the enhanced benefits of the new technology. Network speeds will be faster than ever, which will significantly improve the end-user experience. We have worked with Etisalat in the past – on 2G, 3G, and 4G, so we are excited to take our partnership to the next level with the early implementation of 5G."

Stolen Mobile Phone Market Collapses with PTA's Mobile Blocking System

All phones reported to the Pakistan Telecommunication Authority (PTA) have been effectively blocked on mobile networks in Pakistan. As a part of the DIRBS project, PTA along with the industry and mobile network operators have blocked all phones that were reported to the regulator. PTA's Mobile Blocking System has achieved a major milestone as the use of such phones were the main source of illegal activities and crimes in the country. Up till now stolen mobiles and illegal import of mobile handsets and smartphones remained a challenge for the PTA, law enforcement and customs authorities. To overcome the problem Pakistan Telecommunication Authority (PTA) had launched a system called 'Device Identification, Registration and Blocking System (DIRBS). The system is designed to detect and block stolen and non-type approved mobile phones working on mobile networks. The system also resulted in the elimination of smuggled mobiles and other SIM-based devices. Sources within PTA and CPLCs (Citizen Police Liaison Committees) have estimated that 1.25 million handsets have been reported stolen until last year. However, PTA was successful in blocking all stolen devices with the help of the mobile network operators earlier this month which is a major milestone for the Industry in general and the regulatory body in particular. With the eradication of stolen and reduction of illegal imports of smartphones, the mobile network operators and other businesses have also witnessed better opportunities hence have offered better packages to their customers such as the sale of top-end smartphones on easy instalments, better after-sales service for mobile phones etc. After the successful implementation of DIRBS, overall security situation of Pakistan is improved. Due to the blocking of substandard and stolen/ snatched phones has also reduced the incentive for the people involved in criminal practices thereby lowering mobile snatching incidents. Now every mobile phone has a valid and unique IMEI, it is easy to trace them if involved in any criminal activity. Stolen Phones and other Grey products are a menace to the economy of a country because of huge revenue loss to the government in the form of tax loss. The loss is not only monetary, but it also costs the reputation and the image that is definitely graver than the monetary gains and losses. Putting an end to illegal products will face-lift the goodwill and image of the country. Mobile brands will then be more willing to invest in Pakistan, consequently creating more job opportunities for the citizens.

UAE is the Silicon Valley of the Middle East

The UAE has been a testament to how innovation and disruption are giving the younger generation a platform to explore their entrepreneurial abilities and scale new heights, while at the same time helping conventional businesses maintain their growth and development. The nation is witnessing a blend of both radical and conventional entrepreneurs with family businesses dominating a substantial share in the UAE economy and where being an entrepreneur is a just a regular norm. On World Entrepreneurs' Day, leading startups came forward to share their views on how the nation shapes, incubates and allows the businesses to grow. The UAE is known to recognize talent and radical thinking and that is evident in the string of startups that have mushroomed over a period of time. Magnitt, a UAE-based startup data platform, indicates that there are 6,000 startups in the region. "Dubai has started the journey to establish itself as a startup hub. It is focusing on the core pillars of operational support, ecosystem support and financial support. It will need to continue to address all three of these to be the leader it has set out to be," said Arushi Sood, founder and chief executive officer of AtCash Tech. "Dubai is already establishing frameworks for these pillars. As startups are given the right environment, incentives and access you will see a handful really take off. These 'shooting stars' will catapult Dubai to being viewed as a leading startup hub and environment. The Dubai government is already seen as a leader in the technology innovation and adoption. Its continued support of startups is sure to attract global talent and the 'shooting stars' will be a self-fulfilling prophesy. "The entrepreneurship environment in the UAE is blossoming quite like the entrepreneurs they are supporting. While nascent the right ingredients are in place. Capital markets are still developing, however structures like In5 provide tremendous operational support... It takes a community to raise a startup; the UAE is well into establishing that community," adds Sood. Some of the top sectors that have gained momentum in the UAE startups scene is e-commerce which has recorded a growth of 12 per cent in the first half, followed by technology, IT solutions and delivery and logistics. Sunil Malhotra, founder of Bchain Consultants, said: "Dubai is poised to grow over the medium term as it never fails to test, experiment and finally succeed. The two unicorns that Dubai has produced in the past are Souq and Careem and in the next five years, more will be produced from Dubai." "The UAE has organizations driving innovation and providing hands on support for entrepreneurs and startups. It is inspiring to see spaces that provide a solid foundation and support structure for newly-established startups through world-class facilities and professionals who have the openness, friendliness and patience to walk a new company through every step of the way from license to office space to supporting company growth plans and visions," explains Veronica Murguia, head of Mena and market expansion at SettleMint ME. The vision that Dubai has for 2020 will drive forward the need for more consciousness in daily life and work, Murguia adds. The entrepreneurial and technology driven ecosystem will evolve through deep professional awakening as more and more consciousness meets with career development. "The personal awakening is also a professional one and I am excited to witness and support the evolution of teams, communities and projects which will have at their core the mission to solve the challenges that we are facing today as a society and be part of the upcoming accelerators, incubators, programmes, events, meet-ups and activities that will be the driving force to bring humanity back into the technological stratosphere," adds Murguia. Habib Sassi, founder of Airshoppers, said: "The world belongs to entrepreneurs and as a startup hub, Dubai would ensure that an efficient banking, payment, licensing, legal ecosystem is in place. Dubai should be a center for key entrepreneurship events, launching accelerators and incubators and engaging forums where entrepreneurs can share concerns and learn best practices from others." Even investors from overseas markets affirm that Dubai has carved its own identity and a niche that indicates the growth and the development curve of the nation. Riyad Joucka, founder of the Middle East Architecture Network, said: "Being an entrepreneur extremely challenging, however, the support we got from In5 to set up our company and office and the exciting projects we get from our clients makes things easier. I see a lot more smart people moving here and setting up shop. I see new ideas coming from the UAE and Dubai, not just imitations of foreign startups."

RCOM Completes Sale of Fiber to Jio

Reliance Communications (RCOM) has begun transferring its assets to Reliance Jio Infocomm (Jio) as it completes its long-delayed asset monetization program. The operator announced yesterday that it had completed the sale of 178,000km of fibre infrastructure and related assets, valued at INR30 billion (USD428.5 million), to Jio. The announcement follows confirmation from RCOM last week that it had transferred to Jio 248 Media Convergence Nodes (MCNs) worth a total of INR20 billion. A major component of the monetization program is still in question, however, as the Department of Telecommunications (DoT) is expected to require RCOM to submit bank guarantees totaling between INR28 billion and INR29 billion for spectrum usage charges (SUC) as a condition of its approval for the transfer of its spectrum to Jio. RCOM previously agreed to hand over 122.4MHz of spectrum in the 850MHz, 900MHz, 1800MHz and 2100MHz bands, but announced recently that it would sell an additional 65MHz of 800MHz spectrum to the cellco for between INR35 billion and INR37 billion.

International Reports Reveal a Gap in Digital Services across Arab Countries

Data representing Arab countries' digital infrastructure and internet services showed great differences when going from one country to another. While Gulf states carry on steady progress in the realm of digital development, some countries maintain a fair standing, and other troubled Arab countries suffer from a catastrophic deterioration by both regional and international standards. According to the latest international comparison of Arab countries' internet speeds and packages, Bahrain ranked first in the Arab world and 90th worldwide, with an average internet speed of 5.05 Mbps, making clear progress from its previous global ranking at 96th place. The United Arab Emirates ranked 97th worldwide with a speed of 4.35 Mbps, Jordan ranked 102nd with 4.11 Mbps, and Saudi Arabia ranked 104th globally at 4.09 Mbps. Syria ranked 18th in the Arab world, and 194th worldwide with a speed of 0.81 Mbps, followed by Mauritania at 195th place globally with 0.70 Mbps, Somalia at 197 with 0.60 Mbps, and Yemen ranked last with a sluggish 0.31 Mbps. Published by Cable, a worldwide broadband speed tracker, the 2018 World Broadband Speed League report ranked 200 countries around the world based on their average Internet speed. Aggregate Internet speed was measured by uploading a 5 gigabyte (high definition) video. Statistics show that internet speeds have generally improved worldwide, with the average global internet speed rising from 6.96 Mbps in 2017 to 9.10 Mbps in 2018. Singapore ranked first worldwide, with an average internet speed of 60.39 Mbps, Sweden ranked second with an average of 46.00 Mbps, while Denmark ranked third averaging 43.99 Mbps. Norway ranked fourth with an average of 40.12 Mbps. Romania jumped 13 points from its previous ranking to fifth with 38.60 Mbps. Lebanon ranked 160th in the world and 11th among a group of 21 Arab countries, with an average internet speed of 1.60 Mbps (compared with 1.07 megabytes per second in 2017). According to available data, the time required to download a 5 GB high-definition video in Lebanon in 2018 was 7 hours, 6 minutes and 1 second. Lebanon was followed by Sudan, Libya, Egypt and Algeria. On a similar note, results of a recent e-government development survey for 2018 showed the UAE first in the Middle East and North Africa followed by Bahrain, Kuwait and Saudi Arabia. Yemen ranked last in the Arab world and 186th worldwide, just behind Sudan, Syria, and Iraq. The United Nations Department of Economic and Social Affairs recently released the results of its 2018 survey, which includes 193 countries worldwide, for e-government development.

Huawei Conducts 5G Workshop in Bahrain

Chinese equipment vendor Huawei has conducted a workshop at the Ministry of Transportation and Telecommunications (MTT) in Bahrain, where it discussed plans for the acceleration of 5G in the Kingdom, writes Biz Bahrain. In addition to the latest meeting with Huawei, four separate 5G workshops also took place in Bahrain last month where industry leaders made keynote speeches regarding the steps required to make Bahrain more network-ready for 5G, how to accelerate wireless communication to enable cloud-based wireless networks and how this all fits in with Bahrain's Economic Vision 2030. Eng. Kamal bin Ahmed Mohammed, Minister of Transportation and Telecommunications said: 'We are on the verge of welcoming 5G in the Kingdom and the arrival and early adoption of this technology will position the Kingdom as a leading player in the region and help us achieve the goals of our Economic Vision 2030. Our longstanding and valued partnership with Huawei has ensured that Bahrain continues to adopt the latest technologies and infrastructure to boost the Kingdom's efforts in digital transformation and in building knowledge-based economy.'

Pakistan's First Private Payment System Launched

Two private sector companies have joined hands to establish reliable domestic online payment gateway which aims to serve as a tool for merchant digitization service in an E-Commerce and M-Commerce. Avanza Group and Premier Systems on Wednesday signed an agreement to establish Avanza Premier Payment Services (APPS). The two organizations sight to create synergies that enable APPS to cater the rapidly evolving digital landscape in Pakistan. However, with 90% reliance on COD (Cash on Delivery) method, it is quite evident that Pakistan has yet to accept digitalization.

"We are proud to be partnering with Premier Systems to launch APPS, which will become the country's gateway of choice for payments and help digitize our E-Commerce eco system. Our objective is to help business and consumers alike to overcome payment hurdles and make Pakistan a proud member of the growing digital arena", said Mr.Kapurwala, CEO Avanza Group. However Mr.S.Arshad Raza, CEO Premier Systems added to the discussion by throwing light on how Premier Systems plays a constitutive role in bringing digitization to user's doorsteps.

"We have many international partners, but now we have a domestic player embracing the digital economy and enriching it by providing substantially convenient payment solutions. Pakistan is at the cusp of digital revolution and we are proud to be a part of this drive", he said. This is thought to be a perfect timing for the launch of the fastest and most reliable gateway for payment with 44 Million Internet users and 35 Million Social Media users broadening the horizons for E-Commerce world as Pakistan heads towards digital revolution in near time.

India Eyes 5G by 2022

India will rollout fifth generation mobile networks across the country by 2022, according to its Minister for Telecoms. In doing so, the country will increase the size of its fiber network backbone from 1.5 million kilometers to 2.5 million kilometers, dramatically improving both backhaul and fronthaul capabilities. India has some of the fastest rising data consumption levels in the world, as Indian consumers take advantage of rock bottom data prices. Despite the rapidly growing data consumption levels, India's telecom's secretary Aruna Sundararajan does not feel that there is a need to rush out 5G deployment in the country. "We are not there yet," she said in an interview with The Business Standard in New Delhi. "5G won't be driven by supply, it'll be driven by demand and the rest of the industry needs to wake up to this." With over 1.2 billion mobile subscribers, India is one of the world's biggest and most competitive marketplace. Coupled with the country's sprawling landmass and varied topography, 5G rollout in India will present operators and stakeholders with a host of unique challenges.

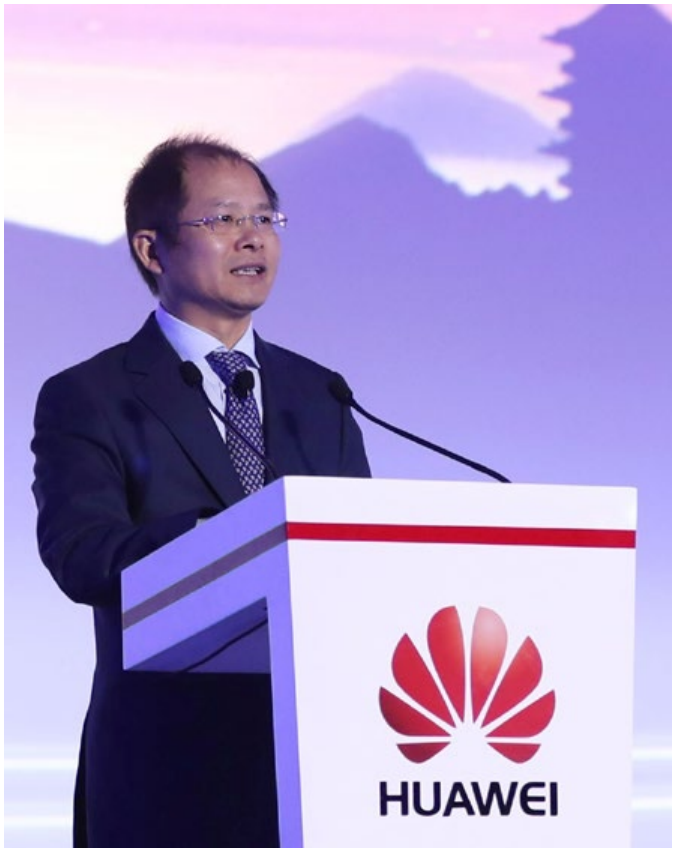
Bahrain's ICTGC Showcases US$7.9 Million IT Projects

Bahrain's ICT Governance Committee (ICTGC) showcased BD3 million ($7.9 million) worth of IT projects which were studied and reviewed in collaboration with concerned entities at the ICTGC's recent 21st meeting. The projects included the transportation licensing system, network infrastructure refreshment, network infrastructure replacement & enhancement along with other projects. The meeting was chaired by Mohamed Ali AlQaed, chief executive of the Information & eGovernment Authority (iGA), at the Authority's headquarter in Isa Town. The committee also recommended utilizing the outcomes and recommendations resulted from studying and revising the projects by implementing them on similar future projects in addition, taking such recommendations into consideration when developing and modernizing policies as well as standards related to the development of cloud computing, government systems and applications. In conclusion, the Committee discussed and tracked the workflow of the recommendations and decisions adopted during previous meetings. It also showcased the projects and procurements that were passed by the ICT Procurement and Review team at the iGA.

From eMBB to Digital Society

ARTICLE

Academic Freedom Drives Progress in Tech



Eric Xu
Rotating CEO
Huawei

HUAWEI

During a recent interview discussing Huawei's views on academic freedom and cooperation with universities, I made a comment about a US congressman and a senator. My intention was not to attack them, and I'm concerned that the public may have been misled by the current news headlines.

I'm a PhD with experience in basic theory research, and my experience tells me that academic freedom and openness are of paramount importance to scientific research. That's why I've decided to write this article, to provide a more comprehensive explanation of my views.

It can take decades or even hundreds of years of R&D effort to close the huge gaps that may exist between basic theory and commercial application.

Academic freedom is a core value and basic aspect of modern universities. It is a precondition for a boom in academic research, scientific development, and an innovative workforce.

Academic freedom is also the cornerstone – and a basic right – of higher education institutions in the US. It is precisely because of this freedom from the interference of politics and other factors that the US can attract the world's brightest minds to study and conduct research within its borders. Academic freedom is also a crucial factor behind the US's continued status as a global technology leader, as well as its strength as a nation.

The National Science Foundation defines "basic research" as "activity aimed at acquiring new knowledge or understanding without specific, immediate commercial application or research." Universities mainly work on basic research, while businesses focus on engineering and commercial application. It can take decades or even hundreds of years of R&D effort to close the huge gaps that may exist between basic theory and commercial application.

Collaboration between universities and businesses can effectively shorten this process. Nowadays, it is clearer than ever that science and technology are more closely integrated. The interplay of businesses, education institutions, and research institutions in basic research and innovation has become a major force behind the progress in science and technology.

Huawei respects and supports academic freedom. Moving forward, we want to continue supporting academic research, in the form of funding, facilities, and lab equipment.

US federal funding for higher education research has been falling steadily for the last decade. It now represents less than 50% of total university research funding in the US.

Corporate sponsorship has risen to close this gap. While the amount of funding Huawei has allocated for research in US universities is relatively modest, it has constituted welcome support for US university partners.

Huawei respects and supports academic freedom. Moving forward, we want to continue supporting academic research, in the form of funding, facilities, and lab equipment. Our collaboration with universities provides numerous opportunities for college and postgraduate students to gain training and hands-on experience. We believe our support is very important, while expecting no direct commercial return.

The research findings made possible through our joint university partnerships are shared openly across the world through dissertations and papers published by professors, PhDs, and postgraduate students alike. Like other corporate supporters of university research – including US-headquartered businesses that support Chinese universities – Huawei does not gain exclusive access to the resulting findings. Science has no national borders, and we hope the results from our university partnerships will ultimately benefit everyone in the world. Huawei never seeks to own their research results.

As a tech company, Huawei benefits from the general advancement of science and technology worldwide. But we remain competitive ourselves because we continuously invest in R&D. In 2017, Huawei invested US$13.8 billion in R&D, bringing our total contribution to global R&D in ICT over the last decade to more than US$60 billion. Huawei has been granted nearly 80,000 patents, including 10,000 patents in the US. Many of these are basic and essential patents. They represent our contributions to humanity, and also to the US's information society.

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It is a long, arduous journey before any basic research projects can deliver tangible benefits to society. This process requires close collaboration between universities and businesses. It requires the relentless effort of numerous scientists and engineers everywhere. These people deserve everyone's respect – rather than groundless accusations – for their efforts and achievements.

Any open-minded politician should work to ensure academic freedom and drive progress in science and technology. They should do so with the same understanding, curiosity, and spirit of fact-finding endeavor displayed by the world's leading scientists.

SATELLITE NEWS

Telesat's New Telstar 19 VANTAGE Satellite Now Operational

Telesat announced today that its new Telstar 19 VANTAGE high throughput satellite (HTS) is fully operational at 63 degrees West and has entered commercial service. Telstar 19 VANTAGE was launched by a SpaceX Falcon 9 rocket from Cape Canaveral Air Force Station in Florida on July 22nd and will serve growing consumer, enterprise and mobility markets across the Americas and Atlantic. It is being operated by Telesat Brasil, a Brazilian satellite company wholly-owned by Telesat. Telstar 19 VANTAGE was built by SSL, a Maxar Technologies company, and is the latest in a new generation of Telesat satellites with capacity optimized to serve the types of bandwidth intensive applications increasingly in demand by users worldwide. It operates from Telesat's prime orbital location of 63 degrees West, the same as Telesat's highly utilized Telstar 14R satellite, and brings a new level of performance and value for satellite broadband requirements on land, at sea and in the air. With its distinct zones of coverage across the Americas and Atlantic, Telstar 19 VANTAGE combines regional beams and high throughput spot beams in Ku-band with additional HTS spot beams in Ka-band. As previously announced, Telesat customer Hughes Network Systems LLC (Hughes) has signed a 15-year agreement for Telstar 19 VANTAGE Ka-band capacity which Hughes refers to as Hughes 63 West. Hughes will utilize this capacity to expand its broadband satellite services for consumers and businesses in South America. Telesat also has long-term contracts for the entire Ka-band capacity of Telstar 19 VANTAGE over Northern Canada, including providing Bell Canada subsidiary Northwestel with the HTS spot beam capacity required to enhance broadband connectivity for all 25 communities in Nunavut, Canada's northernmost territory. "Telstar 19 VANTAGE is a state-of-the-art spacecraft that combines regional beams and high throughput spot beams to deliver superior performance and value to the market," said Dan Goldberg, Telesat's President and CEO. "The pre-launch agreements Telesat has secured with Hughes and Bell Canada, combined with strong interest from other leading satellite service providers across the Americas and Atlantic, confirm that the innovative design of Telstar 19 VANTAGE is the right one to serve today's bandwidth intensive applications. I would like to congratulate the teams at Telesat and SSL whose dedication and expertise enabled Telstar 19 VANTAGE to become fully operational within weeks after launch."

COMSAT and Avanti Communications Plc Sign Seven Year Master Distribution Agreement

COMSAT, a leader in satellite connectivity to the US DoD, has announced a seven-year Master Distribution Agreement (MDA) with London-listed Avanti Communications plc (AVN.L). COMSAT will benefit from the Avanti advanced satellite fleet and particularly from the Hylas 4 satellite, a High-Throughput Satellite (HTS), focused on the Middle East and Africa. In turn, Avanti will gain immediate access to US global governmental and military activity that may otherwise take multiple years to gain approval to serve. Hylas-4, with four uniquely steerable HTS beams and a further 64 Fixed beams, will enter service in September, 2018. The agreement will allow COMSAT to offer advanced, complete service packages to its customers, with focus on Africa and the Middle East and on particular high-value deployments currently planned or underway. Comments David Greenhill, President of COMSAT: "With Avanti, we have found a well-balanced partner to better-serve our customers. Our decades of experience and technical capability will blend with their state-of-art, WGS-compatible, Hylas-4 satellite, built by US manufacturer, Orbital ATK. We look forward to delivering great performance and value for our customers". Kyle Whitehill, CEO of Avanti observed: "Our partnership with COMSAT is disruptive in the most positive way. It takes us into new markets, with our highly capable satellite fleet paired to a global leader in Satcom innovation. We are delighted to create shareholder value through new opportunity. Avanti advances on".

First UAE-Made Satellite to be Launched on October 29

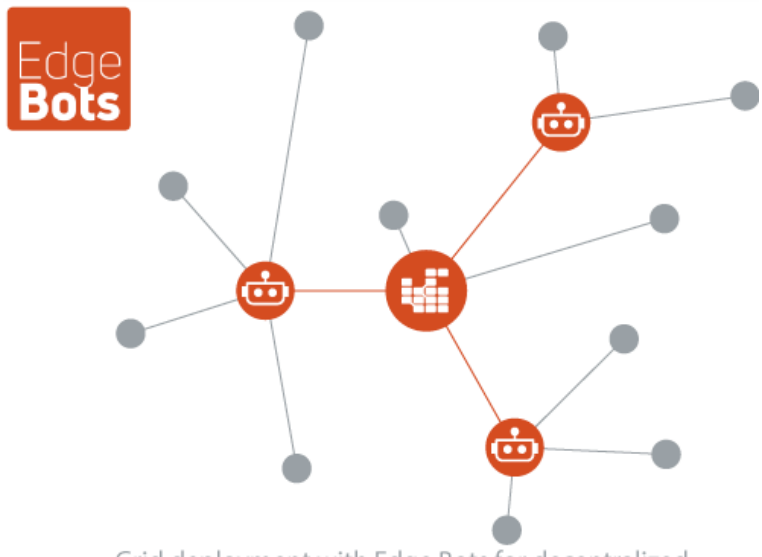
The first satellite fully built by Emirati engineers is all set to launch from Japan on October 29, Dubai's Crown Prince has announced. The Mohammed bin Rashid Space Centre will launch the KhalifaSat from the Tanigashima Space Centre. "Proud of the Mohammed bin Rashid Space Centre, where a team made up entirely of young Emirati engineers has developed the first Emirati satellite," Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum, Crown Prince of Dubai, tweeted. "This is an important milestone for our country, an achievement made possible because our leadership supports Emirati youth and encourages them to excel in the fields of innovation and technological development.

COMSAT Announces Delivery of High-Throughput Wideband Streaming L-band Connectivity to Support U.S. Government ISR Missions

COMSAT has successfully tested and deployed its COMSAT Wideband Steaming L-Band (WiSL®) solution across various U.S. Government aeronautical and maritime platforms. This will enable the government to achieve significant cost savings by reusing existing installed SATCOM equipment, while tripling or quadrupling the throughput and capabilities of the original Inmarsat SwiftBroadband (SB) and FleetBroadband (FB) systems. The WiSL solution utilizes Inmarsat's reliable, worldwide L-band space and ground network and augments existing SB or FB terminals, allowing return datalinks up to 2.8 Mbps. It enhances the original functionality of the terminals, as it provides a dedicated high data rate communications link from a vehicle, maritime vessel or fixed-wing aircraft, fitted with an Inmarsat type-approved high-gain L-band terminal and antenna, as small as 10x10 inches and as light as 4.3 pounds, for each platform. The WiSL capability is enhanced with a COMSAT modem that injects a single channel per carrier (SCPC) signal through a high-gain antenna. The high throughput is achieved over a dedicated satellite service and remote management and allows the user to monitor and control satellite access. Operational beams can be built as clusters of narrow beams or custom-shaped beams. The system uses commonly available commercial equipment and provides global deployment capabilities across the existing Inmarsat constellation. WiSL is a unique solution that meets high-demand ISR needs for higher throughputs from smaller form factor antennas. The solution is managed and operated by COMSAT's two fully-staffed network operations centers (NOCs) located in Southbury, CT and Santa Paula, CA. The COMSAT NOCs operate on a 24/7/365 basis and provide continuous monitoring and service to fielded systems worldwide.

WorldCast Connect Launches an Innovative NMS/OSS Grid Architecture Powered by Edge Bots

WorldCast Connect, which designs and commercializes the WorldCast Manager, announces an innovative architecture leveraging the new Edge Bots to enhance the deployment of its award-winning Network Monitoring and Operation Support Software. The WorldCast Manager is a scalable and multi-faceted NMS/OSS designed to centralize, unify, and simplify the monitoring and management of IP-enabled devices across one or multiple networks and locations. Thanks to the Edge Bots, the WorldCast Manager can now be deployed as a decentralized solution following a grid architecture. Edge Bots are software-only agents that run from any hardware or virtual host, providing advanced local monitoring and management capabilities. Edge Bots enable local data aggregation and processing while securing and optimizing the communication. The addition of Edge Bots to WorldCast Manager deployments enhances the overall robustness, resiliency, and efficiency of the solution; for large networks across multiple locations or for users operating in areas that experience connection disruptions, it also secures data transmission and prevents data loss in case of communication disconnections between sites.



Grid deployment with Edge Bots for decentralized monitoring & management

Hispasat Steps up Consumer Broadband Plans in Brazil

Hispasat and Gilat Satellite Networks have partnered to commercialize Hispasat's Ka-band satellite capacity over Brazil. The contract enables Hispamar, a Hispasat subsidiary, to deliver consumer broadband and enterprise services to local Internet Service Providers (ISPs) – increasing internet access to remote areas to reduce the digital divide and promote regional development. Hispamar will utilize the recently launched Amazonas-5 multi-spotbeam Ka-satellite capacity, as well as Amazonas-3 Ka- capacity, while leveraging Gilat's SkyEdge II-c multi-service platform, versatile Very Small Aperture Terminal (VSAT) equipment, Network Operation Center (NOC), and field support services. "Hispasat's widespread Ka- High Throughput Satellite (HTS) capacity across Latin America is the perfect fit for materialization of our vision and commitment to deliver quality, plentiful, and affordable broadband to unserved and underserved areas in Brazil and in the region," Gilat Vice President of Mobility and Global Accounts Ron Levin said.

Three Astronauts Planned for India's First, Manned, Space Mission

In a story posted by NDTV, India's first manned space flight — Gaganyaan — is expected to send three persons into the space for seven days and the spacecraft will be placed in LEO. Giving details of the program at a press conference, Minister of State for Atomic Energy and Space, Jitendra Singh, said GSLV Mk III, the three-stage heavy lift launch vehicle, will be used to launch Gaganyaan as it has the necessary payload capability. He said two unmanned Gaganyaan missions will be undertaken prior to sending humans. "The total program is expected to be completed before 2022 with the first unmanned flight within 30 months. The mission will aim to send a three-person crew to space for a period of seven days. The spacecraft will be placed in a low earth orbit of 300-400 km. The program is expected to cost less than Rs. 10,000 crore," Mr. Singh said. "The mission will make India the fourth nation in the world to launch a Human Spaceflight Mission." The Gaganyaan mission was announced by Prime Minister Narendra Modi during his Independence Day address. He had said that by 2022, or even before that, some of the young boys and girls will unfurl the Tricolor in space. Mr. Sing said the complex program will truly be a national endeavor with the participation of ISRO, academia, industry as well as other government and private agencies as stake holders. To accelerate the program, ISRO may consider seeking collaborations with space agencies from friendly countries and advanced space programs, Modi added.

Thuraya and IEC Telecom RMaking Waves at SMM Hamburg

Thuraya's upcoming VSAT service and its Marinecomms product portfolio are both on display for the first time at SMM Hamburg, the world's leading trade fair for the maritime industry. The pioneering telecommunications company and its long-time partner IEC Telecom will be co-exhibiting in Hall B6- B6.234 between 4 and 7 September. "As the global maritime industry continues to operate in an extremely tough environment, ship owners are looking for new solutions to optimize the efficiency of their operations," said, Shawkat Ahmed, Chief Commercial Officer at Thuraya. "Satellite communications is key to addressing these requirements and to offer new choices to the industry. As established providers of marine satellite communications services, we understand the nuances of the maritime market needs. We've delivered value-added products and solutions to fishing, naval, Coast Guard, merchant and leisure vessels, and operators of all kind of shipping lines for over 10 years." Delegates to the four-day event in Hamburg will have an opportunity to discover the latest Thuraya offerings, hear the latest updates and learn more about its broad range of products and services, including: The Thuraya VSAT Service, scheduled for launch in Q4, combines key maritime connectivity options to deliver a singular, powerful satellite communications solution. It merges Ku-Band VSAT and L-Band services to deliver one robust offering backed by an extensive network. Catering to the rising demands for higher bandwidth requirements, the service enables crew and officials to be on par with onshore connectivity and stay in touch with ports, ground crew, family and friends. Another product highlight is Thuraya Orion IP, a maritime-specific broadband terminal, which supports broadband data communications at speeds up to 444kbps. Small, lightweight and easy to install, Thuraya Orion IP is suitable for both business and crew communications. A focus will also be on Thuraya SeaStar, a circuit switched voice terminal that conforms to IEC 60945 requirements. Thuraya SeaStar offers voice, SMS, data and tracking, on an easy and intuitive interface. Users can make satellite voice calls to normal PSTN phones, mobile phones and other satellite phones through the Thuraya satellite network. Thuraya SeaStar can also have a standard analogue phone plugged into it as an extension. Shawkat, added: "As Thuraya continues its focus on the maritime sector, the upcoming VSAT service will mark an important strategic milestone in Thuraya's plans; advancing its maritime strategy with the introduction of compelling cost optimization options. Thuraya VSAT offers an integrated platform that transforms marine connectivity by increasing offshore bandwidth capabilities and effectively caters to multiple applications including office-at-sea, crew welfare, cargo manifest and fleet operations. Thuraya VSAT has quasi-global coverage. It delivers VSAT Ku-band and L-band services across land and sea. This includes coverage over major regional merchant shipping routes, offshore regions and coastal marine areas." Nabil Ben Soussia, Managing Director at IEC Telecom Middle East, said: "Thuraya VSAT service is an efficient cost-cutting solution that allows users to rely on one service for all their maritime communication needs. VSAT saves time, and delivers operational efficiency and improved decision-making. With a fixed-pricing model, its usage eliminates billing complexities and presents an attractive cost-saving option." IEC Telecom also comes to SMM Hamburg with their own hybrid terminal, the Orion Edge satellite voice and data solution, developed specifically by them to enhance the offshore communication experience. Nabil, commented: "Another successful collaboration with Thuraya. Orion Edge redefines what is possible in maritime communications. Powered by Thuraya Orion IP, and Thuraya SeaStar voice terminal, and combined with a suite of value-added services, Orion Edge helps bring the consumption budget down by 30% all the while improving operational agility and enhancing efficiency."

Space Adventures Selected to Participate in NASA's Study for the Commercialization of Low Earth Orbit

NASA recently announced that Space Adventures, the only company to have delivered private human spaceflight missions to the International Space Station (ISS), was one of 13 companies selected to study the future of commercial human spaceflight in low-Earth orbit (LEO). The purpose of the study is to inform NASA's strategy for enabling the commercialization of human spaceflight in LEO and NASA's long-term requirements for the ISS. In December, Space Adventures will submit recommendations to NASA on how to quantify the LEO market opportunity, evaluate technical concepts for low-cost habitation, and describe a viable and sustainable business case in LEO. "We are excited to work with NASA and to have the opportunity to provide input into the future of commercial activities in LEO and thoughtful suggestions on what the agency can do to assist in the development of the marketplace," said Tom Shelley, president of Space Adventures. "When commercial crew vehicles are providing regular access to LEO we will see a great future for space tourism; and we are excited to partner with Made in Space to further understand the in-space manufacturing and the materials processing marketplace." Andrew Rush, CEO of Made in Space (MIS), said, "Within 20 years, in-space robotic manufacturing and assembly will be utilized to fabricate and integrate functional space systems for solar power generation, remote sensing, and communications. Space-enabled manufacturing of useful products will drive sustainable, commercial operations in LEO. Working with the Space Adventures' team on this study, MIS will conduct analysis of the price points required to meet existing addressable markets and identify break points for scaling production to larger markets where the cost must be lower to compete with terrestrially produced products." Space Adventures has also partnered with Radiant Solutions for this project. Mike Gold, general counsel of Radiant Solutions, said, "While technical challenges remain important, the legal, regulatory, and policy aspects of commercializing LEO are vital to encouraging successful private sector operations. Radiant Solutions is eager to apply its knowledge to ensure that international treaty obligations, export controls, and space traffic management regimes create an environment that is conducive to the growth of a new and dynamic human spaceflight industry which leverages tourism, in-space manufacturing, and other exciting commercial activities."

Tesacom to Provide New Services in Argentina on Iridium Constellation

Tesacom will provide new services on the Iridium constellation of Low Earth Orbit (LEO) satellites in Argentina. The company will offer voice and data services of 350/700 kilobit per second, with the possibility of scaling up to 1 Mega on the L-band. Customer segments will include the government, maritime, transport, mining, and defense. Tesacom will start offering Internet Protocol (IP) data of 704 kbps plus three telephone lines. Later, the company will incorporate new services such as Global Maritime Distress and Safety System (GMDSS).

WHOLESALE NEWS

ICASA to Cut Termination Rates

South Africa's telecoms regulator ICASA has published a new draft call termination rate regulation, as part of its 'broader program to reduce the cost to communicate'. The watchdog has proposed that for established players – namely MTN and Vodacom – the mobile termination rate (MTR) should drop to ZAR0.12 (USD0.0084) per minute from October 2018, while the fixed termination rate (FTR) should fall to ZAR0.08. From October 2019, the regulator proposes a further drop to ZAR0.10 (MTR) and ZAR0.05 (FTR), with the rates reaching ZAR0.09 and ZAR0.03, respectively, on 1 October 2020. Meanwhile, the regulator is planning to maintain asymmetry in MTRs, with smaller players to charge ZAR0.17 from October 2018, ZAR0.15 (October 2019) and ZAR0.13 (October 2020). Similarly, asymmetry in FTRs will continue, with a proposed rate of ZAR0.09 from October 2018 and ZAR0.06 from October 2019, before the charge is abolished from October 2020. The ICASA used both top-down and bottom-up cost models to inform the determination of the 'cost' for call termination. The watchdog will hold public hearings once it has received written comments from the industry 'to further engage on the input received on the key aspects and proposals of the draft regulations'.

ANACOM Deregulates Wholesale Market for Call Origination

Portugal's National Communications Authority (Autoridade Nacional de Comunicacoes, ANACOM) has issued a decision to deregulate the wholesale market for fixed line call origination for the provision of retail telephone services through indirect access (including carrier pre-selection [CPS], call-by-call carrier selection or subscriber line reference offer [SLRO] services). The regulator noted that indirect access/SLRO has become less important 'as alternative operators have been increasingly investing in their own infrastructure, which has contributed to increased competition in the market'. The watchdog added that this market – previously referred to as Market 2 – no longer meets EC criteria for regulation, and as such, fixed line incumbent PT Portugal (MEO) will have its regulatory obligations lifted. MEO will remain subject to the existing price control obligations on the aforementioned wholesale services for a transition period of 18 months after ANCOM's decision is finalized, but only for existing fixed line accesses, with no obligation to provide any new CPS/call-by-call/SLRO accesses. The final draft decision of ANACOM will now be notified to the EC.

Uniform Call Rate Across Networks

The Bangladeshi government has fixed Tk 0.50 as the minimum rate that mobile operators can charge per minute for calls to any network, creating a level playing field for carriers ahead of the launch of the mobile number portability service. Currently, the lowest rate for a call within a network is Tk 0.25 and to a different network Tk 0.60. Now, a call to any mobile phone number, even if it is within the same network, would cost Tk 0.50 per minute. Operators are charging about Tk 0.40 on an average for calls to the same network. The maximum that the operators can charge per minute is Tk 1.50, down from Tk 2. Scheduled to come into effect immediately, the decision is expected to benefit small operators and make the upcoming mobile number portability (MNP) service successful. Mobile phone operators, however, predict overcall call expenses to remain unchanged. The rates were fixed at a meeting at Gono Bhaban yesterday in presence of Prime Minister's ICT Affairs Adviser Sajeeb Wazed Joy. The Daily Star confirmed what went on with at least four of the attendees. The meeting also granted a two-month extension for the launch of the MNP service as some of the operators were yet to complete their preparations. The service, which will give the subscriber the freedom to switch operators while retaining his/her existing eleven-digit number, will now be rolled out on October 1. Joy had asked the Bangladesh Telecommunication Regulatory Commission to become a VAT-registered entity with the National Board of Revenue. The telecom regulator has long opposed the idea. Doing so will allow the BTRC to give out receipts while receiving VAT payments, which the mobile operators

would then be able to use to get rebates from the NBR, said officials. The meeting also approved two additional operator codes for Grameenphone and Banglalink. The duo had earlier sought 013 and 010 respectively. Grameenphone had made the request with the regulator several times as its existing 017 code was running out of combinations. Currently Robi is using the 016 and 018 codes. Joy also asked the mobile operators to immediately bring into effect a 5 percent VAT on internet usage. Telecom Minister Mustafa Jabbar, Telecom Secretary Shyam Sunder Sikder, BTRC acting chairman Md Jahurul Haque and other commissioners and CEOs of mobile operators attended the meeting.

Vodafone Wholesale Puts in Second Fiber Link for Regional Connectivity But Huge Disparities Exist in African Wholesale Rates as Prices Fall

Vodafone Wholesale's new second link from Ghana to its neighbors is good news for the region. Ghana's position as a competitive regional hub will hopefully drive more falls in wholesale prices, particularly in landlocked countries. However, there are now huge disparities in both international and national fiber prices. Russell Southwood looks at Africa's two speed wholesale market. Sub-Saharan Africa now has several regional hubs that service their surrounding regions. These are currently Senegal, Ghana, Kenya and South Africa. With more competitive markets and pricing policies, Angola, Cameroon and Sudan could join this elite group. But interestingly, highly competitive Nigeria is largely losing out due to lack of fiber connections to neighbors. The walls of monopoly have yet to come tumbling down in West Africa's Francophone countries (particularly its landlocked countries) which means that higher wholesale prices are the norm. Inevitably these lead to high retail prices. However, for example, Togo Telecom is under increasing pressure to drop its wholesale prices as corporate customers can see the much lower prices available just next door in Ghana. So Vodafone Wholesale, a subsidiary of Vodafone Ghana, is to be applauded for building a second fiber optic network link that connects Ghana to landlocked countries within the West African sub-region, including Burkina-Faso, Niger, Mali, Cote d'Ivoire and Togo.. The link, which is located at Dakola, a border town between Ghana and Burkina Faso, will provide reliable internet services to operators and corporate customers seeking to expand their services to the landlocked countries within West Africa. The link was part of the World Bank's West Africa Regional Communications Infrastructural Project (WARCIP) project in Burkina Faso. Vodafone Wholesale is interesting because it has pioneered national flat pricing: in other words customers buy capacity on volume rather than distance. Contrast this with Nigeria where the cost of getting an MB from Lagos to Abuja is still several times more expensive than getting it from London to Lagos, a significantly larger distance. This has remained the case although the cost of both has fallen substantially over the last five years. The effect of this distance charging is that wholesale bandwidth becomes more expensive the further away from Lagos you travel. In effect, wholesale bandwidth rates in Northern Nigeria make it the equivalent of a landlocked country. Why does this happen? Cynics will say that the mobile operators – MTN in particular as it dominates the wholesale fiber market – is simply sweating its assets. Kinder people will note that Rights of Way taxes and maintenance issues around cuts and road building make operating this national network a great deal more expensive. Regulator NCC has recently brokered an agreement that the State Governments will keep their Rights of Way taxes to a lower level. Time will tell if the agreement will stick. But there are not only huge disparities in wholesale prices at national level but also in international wholesale prices at country level. Prices have come down so much now there are multiple international cables that the cost of international bandwidth (in some countries) is only a very small part of overall retail prices. In the coastal regional hubs identified above, bandwidth is now largely below US$10 per mbps at GB level. The arrival of at least one new East African cable and the SACS and SAIL cables on the West African seaboard will keep driving these wholesale prices even further down. This trend contains a trap for those who bought their wholesale bandwidth originally at US$10 per mbps for as the price goes lower, the loss gets larger each time you sell. This may give those holding this kind of bandwidth an incentive to unload at the best price they can get before prices go lower. Of course, this will also add to the downward spiral of wholesale prices. But although there have been some initiatives to improve wholesale prices for landlocked countries, many of these countries are still paying between US$50-100 per mbps on a wholesale basis. Where the price disparity is really punishing is in the difference between small-scale and large-scale buyers in the landlocked countries. Anyone buying a few hundred mbps is likely to be paying 2-3 times as much as the MNOs in those countries. So in a period of declining competition across many African countries at the MNO level these unfair advantages will only increase: the large will always drive out the smaller challenger. Except in those competitive regional hub markets where good deals still seem to be available.

ARTICLE

Four-pronged Mantra for Transforming Service Providers

Similar to all industries, service providers are under tremendous pressure to respond faster, deliver more, deliver better, while cutting costs.

Global and regional service providers have a challenge coming up, and it is not a small one. Collectively, as a group, they will need to be able to manage more than 10 billion mobile-ready devices. This means cleaning up the house to get nimbler, more secure, be able to scale up and out faster, provide new revenue generating services faster, and overall be more efficient than today's yardstick. Business customers are demanding more and more sophisticated services to be bundled in the same package. The underlying note to watch out for is to have the right technology platforms onboarded. Today's cloud-based security, networking, and analytics platforms, once onboarded are set up to provide just those types of services that businesses are asking for. Business expect to get ready-to-use platforms for their WAN, VPN, security, mobile, and IoT application requirements.

Increasingly for most businesses, service providers are now a one-stop shop to get all their technology solutions and services delivered from. On-demand, pay-as-you-use, easy to setup, managed in the cloud, are now basic ingredients of their expectations from service providers.

On the opportunity side, such enabling technology platforms are attracting enterprises to self-disrupt and adopt digital transformation technologies. Early adopters are triggering disruption in almost every market and industry including governments, banking, hospitality, healthcare, retail, logistics, trading, and others. This is an opportunity for service providers to meet their expectations for value added services built around corporate connectivity.

Service providers can see it happening as the demand for their connectivity services keep soaring, but are also on the wrong foot to provide the larger basket of offerings. Business customers are often looking at top of the line value-added services including streaming video, seamless application integration, plug and play connectivity for any device onboarded, high speed network responses at any location and at any time, fool proof security, amongst others.

Ali Amer
Managing Director, Global Service Provider Sales
Cisco Middle East and Africa

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Service providers are well positioned to be an enabling partner for businesses in their digital transformation journeys. But in most cases in order to meet the expectations of their customers and to be profitable and efficient, they also need to have adopted the right technology platforms for themselves.

Service providers need to be beef up their capabilities in multiple areas. They need to be able to go to market much faster than their current average of 18 months. This is much too long to keep pace with the changes triggered by digital transformation. They need to be able to build, deploy, adapt, and takedown offerings based on success and failures in the market on a much faster, but smaller scale.

The rate of technology obsolescence is much lower inside service providers than within their business customers. While businesses refresh their technology platforms every three to five years, service providers have a much longer write-off cycle. This has multiple implications.
For one, their applications and data repositories will remain more siloed, than what is optimally available from the latest technology cycles. This reduces the ability of service providers to leverage the large repositories of customer generated data analytics, and impairs cross-selling and upselling revenue leverages. The entire technology framework inside a service provider may also be inflexible and obsolete leading to diminishing returns on investment. This has a direct impact on profitability.

Market estimates put - keeping the lights on - cost at $7 for every $1 spent by service providers on technology asset purchases. The forward solution for service providers - to aggressively automate and adopt the latest technology solutions.

Service providers also need to build the right eco system of technology and solution enabling partners. This will ensure that they are continuously exposed to the most innovative opportunities available, and are aggressively building and testing proofs of concepts to adopt and move forward upon. Hyperscale and hyperconverged data centers and compute server technologies can allow service providers to scale based on their requirements without encountering performance limitations at any time.

For service providers, security is not a value-added service in the typical sense but it is a key underlying requirement built into performance, delivery, reliability, integrity and long-term financial sustainability of the service provider. No amount of investment can be said to be sufficient in this area and service providers need to diligently spend their budgets selectively and in the most optimal areas in order to build the best protection envelope. This needs to include the service provider as an organization, its customers, its partners and suppliers as well.

Reducing network complexity and simplifying architectures using software defined everything and cloud platforms, helps in the delivery of rich value-added services, at a vastly reduced setup and operating cost.

As an offshoot, the sheer capability developed by the service provider to meet its own internal security expectations, can be used to build an external facing, commercial security service. This can at times help the service provider to get a return on its internal cost center investments from an externally facing, commercially viable, sustainable and competitive service.

For service providers, to revamp and build their capabilities is not an uphill task. However, it does require a pragmatic understanding and realization of its technology strengths and weaknesses. Reducing the dependence on hardware, by adopting network virtualization is one of the most powerful steps in its internal transformation.

Orchestrating the many elements built into the software layers, by intelligently automating and optimizing, rather than relying on human intervention, is another step forward. Advanced analytics and monitoring can help generate revenue and improve customer experience at a much faster rate.

Reducing network complexity and simplifying architectures using software defined everything and cloud platforms, helps in the delivery of rich value-added services, at a vastly reduced setup and operating cost. Also, real-time and near-real-time analytics and reprogramming ensures that applications, policy and services are well tuned to the demands from business customers.

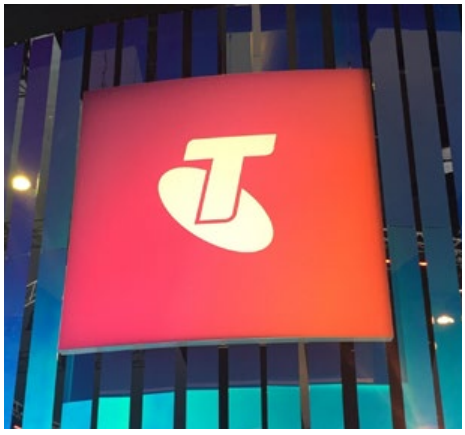
By focusing on four buzzwords - speed, efficiency, growth and security, service providers can ensure they are successfully building their viability for the next phase of business innovation and expansion.

TECHNOLOGY NEWS

AT&T, Partners, Trial IoT in Medical Deliveries

AT&T sent its asset tracking technology skyward, teaming with UK-based packaging company Softbox Systems to demonstrate how the IoT and drones can be used to transport temperature-sensitive medical supplies. In a trial conducted in Puerto Rico, an LTE-connected drone was used to transport Skypod, a thermal-insulated packaging set-up produced by Softbox Systems which includes a so-called smartbox running AT&T's IoT technology. AT&T said in a joint statement the IoT technology allowed the test team to track near real time temperature and location data on a web and mobile app dashboard. The monitoring system was designed to send alerts if the box's temperature shifted outside a certain range, or if the drone strayed outside of geofencing parameters. The operator said the smartbox also recorded light exposure data, which can be used to determine whether the box is open or closed, and can signal whether the package has been tampered with. Softbox Systems technical director Richard Wood touted the trial as an industry first, adding the smartbox "could be rapidly deployed globally in times of humanitarian disaster relief". The move comes as AT&T looks to expand its IoT offerings and explores a number of drone-related applications. AT&T's IoT chief Chris Penrose recently tipped healthcare as a promising emerging use case.

Telstra Announces Switch-On of First Regional 5G-Capable Sites



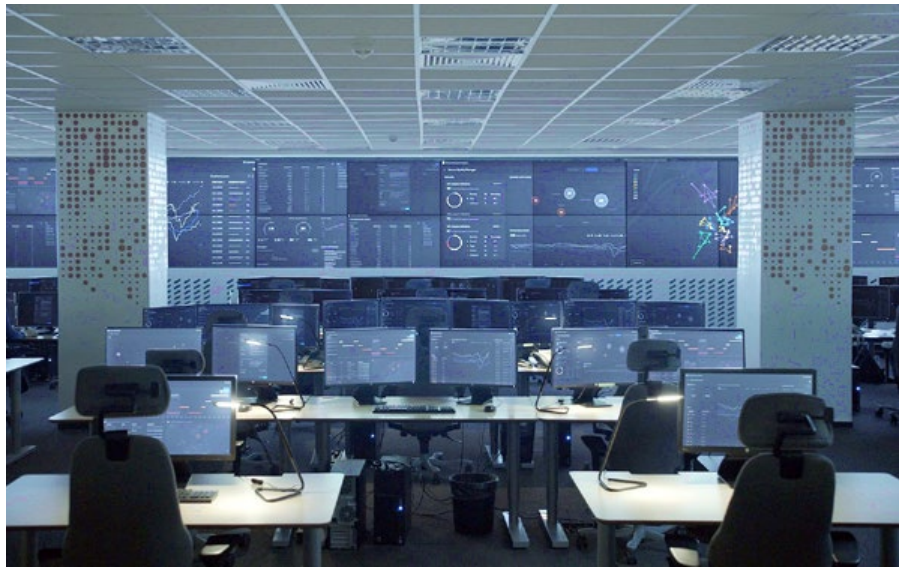
Having switched on its first 5G-capable sites across parts of the Gold Coast earlier this month, Australia's Telstra has announced that Toowoomba has now become the first regional community in the country where its next-generation infrastructure has been enabled. In a press release regarding the matter it was noted that Telstra CEO Andrew Penn and Executive Director, Network & Infrastructure Engineering, Channa Seneviratne had joined civic and business leaders at the Harristown base station in Toowoomba, with the operator's 5G-capable equipment said to have been deployed in 'a select area of the Queensland community'. Commenting on the matter, Mr. Penn said: 'Telstra provides more network investment and mobile coverage across Australia than anyone else and regional Australia is an essential part of our 5G plans … 5G devices are around the corner and when they are commercially available this network upgrade means the people of Toowoomba will be among the first people in the world to enjoy access to 5G services.' As previously reported by CommsUpdate, Telstra has said it expects to have more than 200 5G-capable sites across Australia by the end of 2018, with it planning to expand coverage to capital cities, regional centers and other high demand areas over the coming months. It has said the technology rollout is underpinned by the approximately AUD5 billion (USD3.6 billion) in mobile network investment it has earmarked for the three years to 30 June 2019, with the monies being spent to enhance the capacity, capability and reach of its infrastructure.

Africa Adopting Technology

African capital markets are increasingly adopting disruption to make investing more transparent and accessible to a younger, tech-savvy generation, and see an increase in trading volumes. Oscar Onyema was appointed the new CEO of the Nigerian Stock Exchange (NSE) in 2011, having previously been senior vice president of the American Stock Exchange. The exchange needed to change to increase transparency and make investing easier, and for this, Onyema turned to technology. The NSE's X-GEN trading platform was launched in 2013, offering better access to real-time data, thereby improving governance and transparency. Onyema described it as the fastest-trading platform in Africa. Its impact was immediate. The average daily value of trade increased by around a third, to over $14 million in 2017. Other capital markets across the continent are following suit and adopting tech to make investing more transparent and accessible. The Nairobi Securities Exchange, for example, rolled out its Automated Trading System in 2014. The Nairobi exchange followed this up with the launch of its own mobile app, which its head of brand and corporate affairs Waithera Mwai-Ireri says would "democratize" access to capital market-related information in Kenya. The app provides quick and easy information for potential investors and allows investments to be made in real-time. Mwai-Ireri said the move was designed to make investing on capital markets accessible to a younger, tech-savvy generation. "The NSE app will enable investors to track market activity on a continuous basis enabling them to make real-time investment decisions. The app will spur interest in the capital market amongst the youth in the country, who make up over 75 percent of our total population," she says. The Nairobi exchange is a leader in Africa in terms of tech not only for its app, but its mobile-traded government M-Akiba bond. Mwai-Ireri said stock exchanges across the continent were seeing huge increases in trading volumes as a result of the use of technology. "The use of technology has fast-tracked the development of Africa's exchanges. Technology has enabled stock exchanges to enhance their surveillance capabilities contributing to transparency in the market," she says, adding she expected more exchanges across Africa to launch mobile-based applications in the coming years. The younger, tech-savvy audience being targeted by exchanges such as those in Nigeria and Kenya may, however, have already found alternative ways of investing their money, away from traditional institutions such as exchanges and banks. A platform tapping into a desire for alternative investments is South African company The Sun Exchange, which is also utilizing the increased uptake of cryptocurrencies. Using the platform, people use cryptocurrencies like bitcoin to buy solar panels, which The Sun Exchange then leases to businesses in Africa. Users earn income from these panels over a period of the next few years. Founder and CEO Abraham Cambridge said improvements in efficient peer-to-peer payment systems and crowdsourcing has meant that entirely new investment models and platforms have become possible, solving problems that could previously not be solved. He said this trend will likely continue. "Consumers are becoming increasingly skeptical of opaque and slow traditional banking. Modern day millennials will soon be the dominant investor group as they begin to inherit baby boomer wealth, and this group is used to instant gratification, transparency and a desire to change the way the world works," Cambridge says. "In addition, traditional financial institutions are becoming increasingly risk averse, which means that investments into startup businesses and innovative concepts, such as projects built around cryptocurrencies, find it extremely hard if not impossible to raise capital through these traditional means." He says the appeal of using cryptocurrencies for investments was that they are open and universal. "This means that previously unbanked customers, of which there are hundreds of millions across the African continent, can now engage financially with the rest of the world. In the case of The Sun Exchange, this means we can transact with the whole world using a single currency," he says.

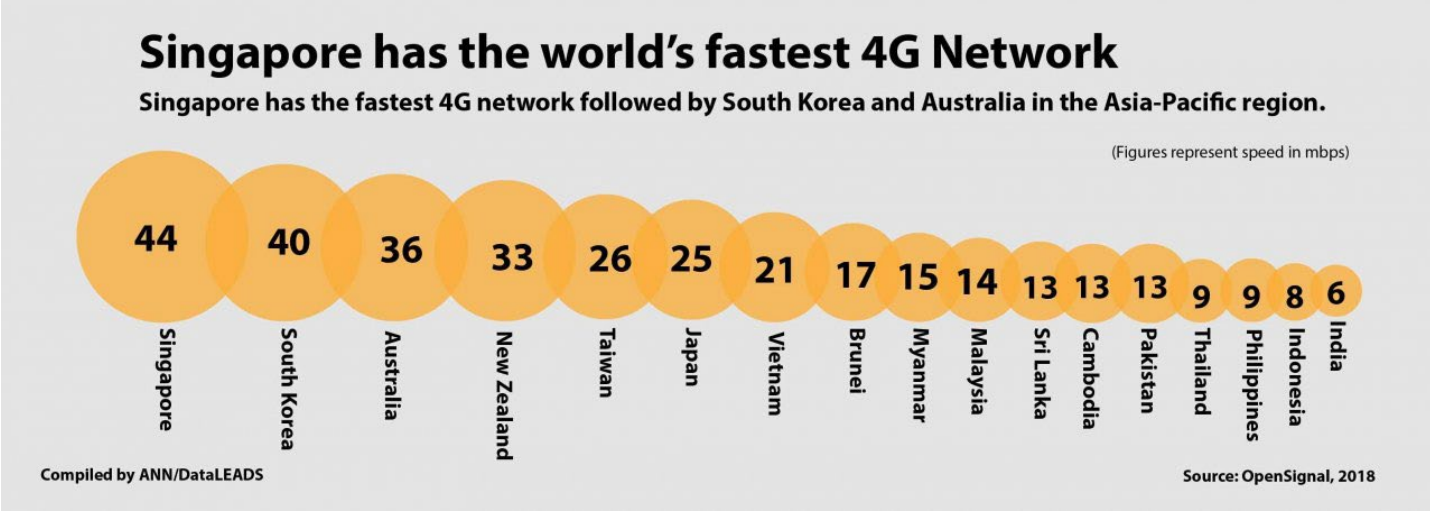
Ericsson to Prepare Hi3G's Transport Network for 5G

Hi3G Denmark has selected Ericsson to modernize its transport network with 5G-ready routers over the next three years. The new IP Mobile Backhaul transformation project will see the implementation of Router 6000 hardware, software and customer support (part of Ericsson Radio System). This will prepare Hi3G's network for future 5G requirements and support a significant increase in the number of connected devices on the network. The rollout will start during the autumn of 2018 and expands Ericsson's existing partnership with Hi3G.



Singapore Has the World's Fastest 4G Network

Singapore has the fastest 4G network followed by South Korea and Australia in the Asia Pacific. Singapore is also the fastest 4G country in the world, according to a report by Open Signal, a UK-based wireless technology company. The report compares 4G performance across 88 countries worldwide. South Korea is the second fastest network in Asia followed by Australia and New Zealand. In Australia, Vodafone has jumped ahead of Telstra in the 4G speed metric, averaging LTE downloads of 40 Mbps. Taiwan's operators are quickly joining the global elite in 4G availability and it is the fifth fastest network speed in Asia. It is followed by Japan and Vietnam at 25.39 and 21.49 mbps respectively. As per the report Japan 4G network speed is by no means slow, but it is still well away from matching the LTE speeds of the elite countries. Brunei Darussalam has eighth fastest network in Asia with 17.48 mbps speed. It is followed by Myanmar and Malaysia. Other countries below 15 mbps are Sri Lanka, Cambodia and Pakistan. India fares poorly in the report. Its operators are still focused on growing LTE's reach rather than injecting more speed into their 4G services, according to the report. According to the report through improved smartphone technology and new spectrum, mobile operators have elevated average 4G speeds first beyond 20 Mbps, then beyond 30 Mbps, and in the last two years, beyond 40 Mbps. However now the industry seems to have reached a limit to what current technology, spectral bandwidth and mobile economics can support on a nationwide level. The fastest countries average LTE download speeds have stalled at just over 45 Mbps, as per the report. Speeds, however, remained stagnant, but that could soon change as the wave of consolidation clears the way for new high-capacity networks."



O2 Tests LED Light Based 'LiFi' Network

UK mobile network operator O2 has launched an innovative new trial, which uses LED light bulbs to create a wireless network capable of transmitting large amounts of data. Where traditional WiFi networks utilize radio waves, O2's trial network uses LED light bulbs to send and receiving large quantities of data. Conducted in partnership with pureLiFi, the trial is taking place at O2's UK headquarters in Slough. "At O2 we're committed to building the best network possible for our customers, and a huge part of that is making sure we're ahead of the pack in testing the latest technology," said O2's chief operations officer, Derek McManus. "Our LiFi trial shows how you can deliver high-speed connectivity to customers in new ways and is another example of how we're future-proofing our network as we pave the way for 5G in the UK." O2 says that its LiFi test network has the potential to serve as a serious contender to traditional WiFi solutions, with its reliance on the visible light spectrum enabling a "safer, more reliable and more secure wireless data communication than WiFi," while simultaneously reducing infrastructure complexity and energy consumption. "With the proliferation of internet-of-things devices and continued growth in mobile users, the demand for spectrum is under increasing pressure. LiFi is capable of unlocking unprecedented and much-needed data and bandwidth, and we are delighted that O2 has chosen to partner with pureLiFi to explore this tremendous potential. O2 is at the forefront of championing technologies to provide real solutions for 5G and beyond, and we look forward to working with them towards our common goal," said Alistair Banham, CEO of pureLiFi.

Samsung Unveils 3GPP-Compliant 5G Modem

Samsung claimed to have developed the industry's first 5G modem which fully complies with 3GPP standards for 5G New Radio (NR), and is compatible with both sub-6GHz and mmWave spectrum.

The Exynos Modem 5100, which is compatible with 3GPP Release 15, delivers a maximum downlink speed of 2Gb/s on sub-6GHz airwaves and 6Gb/s using mmWave spectrum; speeds the company said are about 1.7-times and 5-times faster respectively than the data transfer rates of its predecessor. It is built using 10nm process and supports legacy radio access technologies designed into a single chip. Samsung announced the modem would be available by the year-end, with compatible RFIC, Envelope Tracking and power management options available. The company said it conducted a wireless NR data call test using a 5G base station and prototype end-user equipment running the Exynos Modem 5100. In a statement, Inyup Kang, president of Samsung's system LSI business, said: "As the industry prepares the shift toward 5G, Samsung will continue to drive the growth of innovative ideas and new services in mobile applications and other emerging industries." Industry group 3GPP finalized standalone 5G NR standards in June, which will operate alongside the non-standalone version of 3GPP's Release 15 standard unveiled in December 2017. Although Samsung laid a claim to producing the first compliant 5G modem, rival Qualcomm in February announced it had already begun signing up operators and device makers to trials of its X50 modem, albeit this product was announced before the standalone 5G NR specifications were finalized.

Verizon, Nokia Tout First 5G Mobility Call

Verizon inched closer to making mobile 5G a reality, teaming with Nokia to conduct what it said was the first transmission of a New Radio (NR) signal to a receiver moving between two radio sectors. As part of the test, the operator said a vehicle equipped with a receiver and measurement equipment drove between two 5G NR radios set up on a building at Nokia's campus in New Jersey. The system, operating at 28GHz, managed to successfully hand off the signal from one radio sector to the other. Bill Stone, VP of technology development and planning for Verizon, called the achievement a "significant" advancement in the development of 5G technology. "By taking these tests out of the lab and into the field, we're replicating the experience users will ultimately have in a 5G mobility environment." Verizon previously stated it plans to launch 3GPP-compliant mobile 5G service in early 2019 following a rollout of fixed wireless access 5G later this year (using its own technology standard). The announcement is the latest in a string of 5G milestone claims from US operators. In February, Verizon and Korea Telecom claimed the first demonstration of an international video call using a pre-commercial 5G network. Verizon followed up with what it said was the first standards-based 5G over-the-air call on mmWave spectrum later the same month. T-Mobile US also staked a claim with Nokia in June, with the first bi-directional data transmission over mmWave using 3GPP standards-based technology.

Globe Telecom on Course to Deploy 5G Technology by 2Q19

Globe Telecom of the Philippines has said it is on track to begin implementing fifth-generation wireless technology by the second quarter of next year and is moving forward with plans to upgrade its networks to support it. In a statement the telco said: 'Globe in July 2017 started commercially deploying massive MIMO [multiple input, multiple output] technology, using 2CC carrier aggregation, which doubles LTE capacity'. Further, it confirmed that with the requisite assets now in place, it is confident it can complete its network upgrade in support of 5G by the end of the year. Officials from Globe recently visited Huawei in China to discuss a 5G partnership. The vendor was Globe's technology partner for a USD700 million upgrade program that began in 2011. In November 2015 the two firms signed a fresh five-year contract, involving the planning and design of a mobile broadband network, as well as the creation of a mobile innovation Centre.

Vodafone Tests 5G in Madrid, Barcelona, Seville, Malaga, Bilbao and Valencia

Vodafone Spain has confirmed that it has deployed 30 pre-commercial 5G-capable antennas across the cities of Madrid, Barcelona, Seville, Malaga, Bilbao and Valencia. The rollout, which was carried out in conjunction with Huawei, has targeted downtown areas, technology parks and universities. The new network utilizes the 3.7GHz band, and supports download speeds of up to 2.2Gbps. As previously reported by TeleGeography's CommsUpdate, earlier this month Vodafone dominated the bidding at Spain's 5G auction, paying EUR198.1 million (USD230.9 million) for 18 5MHz blocks of spectrum in the 3.6GHz-3.8GHz band.

China Mobile Hong Kong Completes End-to-End 5G Testing

China Mobile Hong Kong has become the first mobile operator to successfully test end to end 5G network testing by using customer premise equipment (CPE), according to a company release. "The lab test results produced by China Mobile Hong Kong are different from those announced by other telecom operators. China Mobile Hong Kong has successfully implemented 5G networks in a static environment using 28GHz millimeter-wave spectrum, along with 800MHz bandwidth and 4x4 MIMO multiple-input multiple-output technology. The highest data transmission speed achieved is 14 Gbps, which is much higher than the previous 2 x 2 MIMO technology test results (8 Gbps) released by other mobile carriers. In addition, when using the 3.5 GHz spectrum (100 MHz bandwidth), the highest data transmission speed tested in an indoor environment can reach up to 700 Mbps," China Mobile Hong Kong said in a statement to the press. The testing took place at China Mobile Hong Kong's 5G innovation Centre, which opened in March this year. The company also has plans to construct a full 28GHz 5G test bed by the end of 2018 to conduct further live tests into 5G applications.

Altice USA Unveils New 3.5GHz Test Plans

Altice USA – which owns US cable duo Cablevision and Suddenlink – has applied for Federal Communications Commission (FCC) approval to stage small cell tests using 3.5GHz Citizens Broadband Radio Service (CBRS) spectrum in Jonesboro, Arkansas and Deer Park, New York. The trials will commence on 1 September 2018 and run until 28 February 2019. Altice was previously permitted to stage wireless tests using 3650MHz-3700MHz spectrum in Bethpage, New York. That trial commenced on 1 August and will run to 30 January 2019. TeleGeography notes that Altice USA intends to enter the wireless sector in 2019, when it will launch a Full MVNO using the Sprint network.

REGULATORY NEWS

UK Government Releases £95m for Local FTTH Initiatives

The UK government has encouraged local authorities to submit their applications for funding, as it makes £95 million available for full fiber to the home (FTTH) schemes. The funding is part of the government's Local Full Fiber Networks (LFFN) initiative, which will eventually release a total of £190 million to fund the rollout of local full fiber infrastructure. "We recently set out our ambition for a nationwide full-fiber broadband network by 2033, and initiatives like this will be instrumental in achieving that. We want to hear from any local authority interested in taking part, so we can work closely with them on their plans to help them secure funding," said the UK's Minister for Digital, Margot James. Funding will ultimately be allocated by the LFFN investment panel, with special consideration being given to schemes that have a rural focus, help to burst barriers to 5G rollout or add to public sector productivity. A recent report revealed that the UK averaged a download speed of just 18.57Mbps, making it only the 35th best country in the world. With FTTH penetration levels in the UK hovering at only 3 per cent, the government has much work to do if it is to achieve its aim of reaching 100 per cent FTTH penetration by 2033.

FCC Awards USD 1.5Bn in Connect America Funding

The Federal Communications Commission (FCC) has announced that the Connect America Fund Phase II auction (Auction 903) concluded on 21 August 2018. In total, there were 103 winning bidders, with ten-year support totaling USD1.488 billion and covering 713,176 locations in 45 states. 53% of the locations covered by the auction will receive download transmission speeds of 100Mbps, while 99.7% will receive downlink speeds of at least 25Mbps – more than double the 10Mbps minimum standard set out by the Connect America Fund. While the list of bidders includes household names such as Verizon Communications, Cincinnati Bell and Viasat, the bulk of the participants are smaller, regional-focused telecoms operators, such as the Rural Electric Cooperative Consortium, Paul Bunyan Rural Telephone Cooperative, Mark Twain Communications Company and Farmers Mutual Telephone Company. Winning bidders are required to submit a post-auction application for support no later than 15 October 2018.

BT Rethinks G.fast Rollout Plans as British government Focuses on Fiber

In the wake of the British government firmly placing a focus on the delivery of fiber-based services in its recent 'Future Telecoms Infrastructure Review' ('FTIR'), fixed line incumbent BT has reportedly decided to scale back plans to reach ten million premises with G.fast technology. According to the Financial Times, citing a letter sent to customers of BT's network unit Openreach, the telco is now aiming to upgrade a total of 5.7 million copper lines to G.fast over the next two years, having previously planned to bring the technology to some ten million premises. Meanwhile, Openreach is now seeking to reach some three million premises will full fiber connectivity in the same timeframe, compared to an earlier target of two million. As previously reported by CommsUpdate, in July 2018 the Department for Digital, Communication, Media & Sport (DCMS) published a national, long-term strategy for the UK's telecommunications sector, with a notable focus on the provision of full fiber services. The DCMS' FTIR, which was announced as part of the government's modern Industrial Strategy, proposed changes that the state said were needed to ensure that in future, most of the population will have access to 5G. Moreover, it called for 15 million premises to be connectable via full fiber broadband by 2025, while targeting nationwide coverage by 2033.

Germany Needs 4th MNO to Kick Start its 5G Revolution

Germany needs a fourth mobile network operator to inject fresh competition into its stagnating telecoms market, according to the country's antitrust regulator. A report by Reuters sites Cartel Office Chief, Andres Mundt, as saying that Germany needed a fourth mobile operator to enter the market at the country's forthcoming 5G spectrum auction. "It would be desirable for competition on the mobile market if the auction enabled the entry of a fourth network operator," Mundt said in a statement. Unsurprisingly, Deutsche Telekom, Telefonica Deutschland and Vodafone have all resisted terms offered by the German telecoms regulator that would reduce barriers to entry for a would be new operator. Germany plans to begin auctioning spectrum for fifth generation mobile networks in early 2019. The country's Federal Network Operator has already delayed the spectrum auction, which was originally due to take place in late 2018. Mundt also called for Germany's big three network operators to be forced to open up their network architecture for use by mobile virtual network operators (MVNOs), echoing calls made by the MVNO Europe group last month. "Until now, the three incumbent German Mobile Network Operators - namely Telekom Deutschland, Vodafone and Telefónica Deutschland - made clear they have no intention of enabling non-discriminatory wholesale access to their networks, or to support industrial and Internet of Things (IoT) ecosystems. Many MVNOs, as well as industrial companies willing to develop 5G networks and services, see their commercial and innovation potential curtailed, due to that fact that fit-for-purpose wholesale access to 4G is prevented by these MNOs," read a statement from the MVNO Europe organization.

NBTC Sets Conditions for Granting Safeguards to dtac Customers

The National Broadcasting and Telecommunications Commission (NBTC) will wait for either of the two bid winners of 1800MHz spectrum lots to pay the first instalment of the license fee upfront before considering whether to grant consumer protection measures to 1800MHz customers of Total Access Communication (dtac). The NBTC telecommunications subcommittee yesterday announced its position on dtac's request for a remedy period to be applied for the benefit of its 1800MHz and 850MHz customers following the expiry of concessions on its two spectra on September 15. The remedy period refers to the duration the NBTC would allow telecom operators to continue using existing spectra to offer services on an interim basis after their concession ends. This is to give them time to migrate all customers to other networks. NBTC secretary-general Takorn Tantasith said yesterday that only after one of the two bid winners paid the initial fee would the regulator consider granting the remedy period to dtac. In principle, if neither of the bid winners pays the first instalment after the concession ends, the NBTC would automatically grant the remedy period to dtac's 1800MHz customers. The protection would cover its entire 25MHz of 1800MHz. The NBTC divided dtac's 1800MHz spectrum into nine lots, each containing 5MHz, and auctioned them on August 19. dtac subsidiary dtac TriNet and Advanced Info Service subsidiary Advanced Wireless Network (AWN) each clinched one lot from the auction. Therefore, dtac has requested the NBTC remedy period for the remaining 15MHz of the 1800MHz. The auction rules require the bid winners to pay the first instalment within 90 days of them being named as winners. dtac has also asked for a review of the NBTC's decision to reject its request for a remedy period for its 850MHz customers. In this case, Takorn said that dtac would have to write to NBTC with clear reasons for the review. Then, the NBTC office would collect all related information, including the number of dtac's existing customers on its concession for the NBTC telecom subcommittee's consideration on September 4. The panel would forward its conclusion to the NBTC board on September 5. In a separate matter, Takorn said that on Tuesday the NBTC had met with the representatives of the digital TV license holders to seek a long-term solution for the industry, with many of the license holders struggling to survive amid the fierce competition. The broadcasters proposed that the government should subsidize the entire monthly fees they have paid to the network providers to rent their broadcasting networks. The NBTC has already subsidized the broadcasting network rental fee to all digital TV license holders by 50 per cent of the fee for two years, effective from May 23, in line with a recent order by the junta. In addition, they also proposed that once the NBTC auctions the 700MHz, it should use the upfront fees gained from the auction to cover all their remaining upfront fees they have paid to the NBTC for their TV licenses. The NBTC plans to migrate all digital TV license holders, which currently use 700MHz, to operate on 400MHz in the future.

Viettel, AT&T and Telenor Throw Hats into the Ring for Philippines' Third Operator License

Viettel Group, which is wholly owned by the Vietnamese government via the Ministry of Defense and is active in mobile markets in Asia, Latin America and Africa, has set its sights on the Philippines as the next destination in its expansion drive, the company confirmed yesterday (23 August). 'Viettel is interested in the third license on telecommunications in this market,' Vietnam's largest mobile carrier told Reuters in an emailed statement. With the Philippines gearing up to award the third telco slot – possibly before the end of this year to challenge the duopoly of PLDT Inc. and Globe Telecom – Viettel says it will 'consider participating [if] the conditions of the bidding documents are in line with [Viettel's] strategy'. Along with its home market, Viettel is active in Cambodia, Laos, Timor-Leste, Haiti, Peru, Mozambique, Cameroon, Burundi, Tanzania and Myanmar. Meanwhile, in a related development the acting head of the Philippines' Department of Information and Communications Technology (DICT), Eliseo Rio, Jr, has revealed that US-based AT&T Inc. and Norway's Telenor Group have also expressed interest in challenging the PLDT-Globe duopoly. 'We are not yet sure if they will submit a bid [but]… they're interested, so they're here,' the DICT told reporters following a public hearing on draft rules for the third telco search. While the two companies' interest is not currently confirmed, the pair could join Viettel and a number of other firms which have already signaled their intent. These include KT Corp, LG Uplus, China Telecom and KDDI Corp in the list of foreign firms that are known to be keen to partner with local companies such as Davao-based Philippine Telegraph and Telephone Corp (PT&T), NOW Telecom, Transpacific Broadband Group International, (TBGI), Converge ICT Solutions and EasyCall Communications. 'There might be two to three [bidding groups] that are ready by October. We'll play it by ear,' Rio confirmed.

5G Trial Licenses Now Available, CICRA Confirms

The Channel Islands Competition and Regulatory Authorities (CICRA) has announced that it has engaged with the governments of Guernsey and Jersey, as well as key stakeholders, to develop a framework for the introduction of new licenses and spectrum for 5G. The agency says the move forms part of its plan to ensure that the Channel Islands 'can harness the future power of 5G for the benefit of all', In a press release regarding the matter, the CICRA said it had already held discussions with UK telecoms regulator Ofcom, which manages spectrum allocations on the Channel Islands' behalf, to ensure the appropriate spectrum will be available to local operators. In line with this, it has been confirmed that trial spectrum and licenses are now available for the Channel Islands, with these 'allowing operators and software developers to pioneer new applications and services' in the Islands ahead of the introduction of any commercial 5G services, which the regulator has suggested could be launched in 2020/21. Commenting on these new trial licenses, Tim Ringsdore, Director at the CICRA, said: 'We have worked very closely with Ofcom to ensure the Channel Islands have the right amount of spectrum to enable 5G services in the future. The announcement today of a formal process agreed by Ofcom and CICRA for operators to acquire innovation/test spectrum and licenses should provide a clear message to the outside world that the Channel Islands is open for new business and we will encourage developers from all over the world to come to the Islands and work with Digital Jersey, Greenhouse Guernsey and local operators to develop new world class solutions.' Meanwhile, the CICRA has also confirmed that it will conduct a 5G summit on 26 November 2018 in Guernsey to provide public information regarding all aspects of 5G and, specifically, how stakeholders will work together to ensure the Islands gain the most from the technology.

Regulatory Reshuffle on the Cards for Puerto Rico

On 12 August Puerto Rican Governor Ricardo Rossello passed a new law to create a new multi-jurisdiction watchdog, the Public Services Regulatory Board of Puerto Rico (Junta Reglamentadora de Servicios Publicos de Puerto Rico), which will replace the Telecommunications Regulatory Board (Junta Reglamentadora de Telecomunicaciones de Puerto Rico, JRTPR) and a number of its sister agencies, including the Energy Commission and the Public Service Commission. The new watchdog will seek to improve efficiencies in public administration, reduce spending and establish a more nimble regulatory structure.

Government Provides 5G Security Guidance to Australian Carriers

Fifth Generation (5G) is the next evolution of mobile technology. It promises the ability to improve the daily lives of Australians, strengthen our connectivity and accelerate our networks. 5G will change the way people use, and rely on, mobile services, driving improvements in a range of ways for businesses and communities. It will enable a new wave of innovation across our community and be used to connect other critical infrastructure, including electricity and water. 5G will underpin the development of smart cities and Internet of Things (IoT), and connect industrial control and safety of life systems, like remote surgery, and autonomous vehicles. The Government wants to create an environment that allows Australian businesses to be at the forefront of seizing the benefits of 5G across the economy. To achieve this, the Government is fostering a policy and regulatory environment to support a more efficient rollout, given its potential benefits to the economy. The Government has undertaken an extensive review of the national security risks to 5G networks. 5G requires a change in the way the network operates compared to previous mobile generations. These changes will increase the potential for threats to our telecommunications networks, and these threats will increase over time as more services come online. Acting Minister for Home Affairs Scott Morrison said the Government wants to realize the benefits of 5G but acknowledges that this new technology introduces additional risks. "The security of 5G networks will have fundamental implications for all Australians, as well as the security of critical infrastructure, over the next decade," Mr. Morrison said. Minister for Communications and the Arts Mitch Fifield said that it is vital that security and integrity underpinned the opportunities opened up by 5G networks. "The Government is committed to the timely rollout of 5G networks in Australia. 5G will drive substantial economic and social benefits across the economy, through new technologies which will be used in autonomous vehicles, smart cities, and advanced agriculture," Minister Fifield said. The Government is committed to protecting this vital technology. To fully realize 5G's benefits, Government and industry need to continue to work together to take necessary steps to safeguard the security of Australians' information and communications at all times, and the integrity and availability of the networks themselves. Last year, the Government introduced the Telecommunications Sector Security Reforms (TSSR) to provide a framework for Australia's security agencies and industry to share sensitive information on threats to telecommunications networks.

UK Security Chief Warns of 5G Terrorism Threat

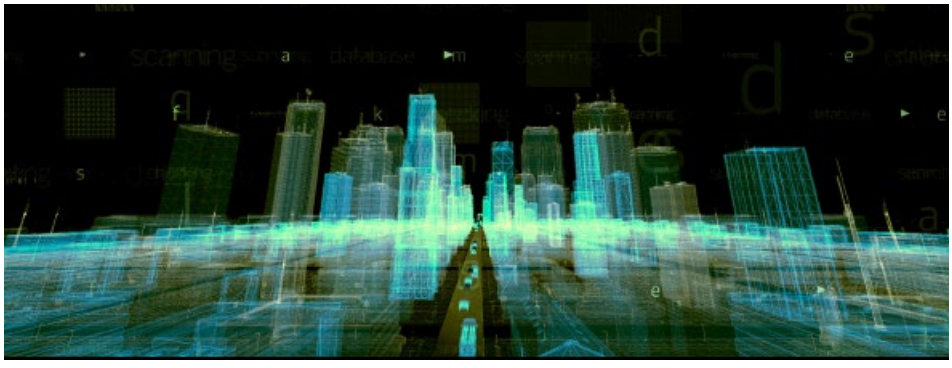
Emerging technologies including 5G networks could be vulnerable to attacks from terrorists, hostile states and criminals, warned Jeremy Fleming, director of the UK's Government Communications Headquarters (GCHQ). Writing in the Sunday Times, Fleming said new technologies including artificial intelligence, 5G and IoT will bring huge benefits to society, transforming areas including healthcare, creating smart cities and improving productivity. However, he said these technologies "also bring risks that, if unchecked, could make us more vulnerable" to attack from terror groups and overseas governments. Forging a balance between benefitting from new technologies while protecting national security "requires new partnerships and different ways of working at a global level", he stated. Highlighting the increasing globalization of technology, Fleming also said the UK needed to "learn to deal with it", noting China's lead on 5G could potentially pose a problem. "Critical technologies – for example, in 5G – are increasingly likely to come from China…we must ensure that processes represent industry best practice so as to avoid real risk to the UK's critical national infrastructure (CNI). We need to consider early, robust and fair solutions to the global challenge" of balancing "investment, trade and security". Fleming's comments come as UK operators continue to strategise for 5G, expected to launch in the country over the next two years. Market leader EE revealed recently it will begin testing its 5G network in October, with plans to launch commercially in 2019. Rival 3 UK plans to start its own trials in 2019. Fleming added GCHQ will continue to build on its understanding of technology to inform government policy and protect the UK, while working with businesses, technology companies, academia and privacy groups to protect the public from real world and online harm. "We need honest, mature conversations about the impact that new technologies could have on society. This needs to happen while systems are being developed, not afterwards," he said.

Mobile Number Portability Imminent in Cote d'Ivoire

The Regulatory Authority for Telecommunications in Cote d'Ivoire (Autorite de Regulation des Telecommunications de Cote d'Ivoire, ARTCI) has indicated that mobile number portability (MNP) will be launched for users nationwide on 3 September 2018, Agence Ecofin reports, citing local media. Successful MNP tests were reported in April 2018, based on systems implemented by local internet and business services provider VipNet, which was chosen by the ARTCI in June 2017. The regulator posted a notice on its website on 18 August 2018 confirming that MNPwill be available to all subscribers of MTN, Moov and Orange networks (although this notice did not confirm the 3 September launch date). The notice added that, to qualify for porting, a mobile number must be active for at least 60 days, whilst the same number can be ported again after a minimum 60-day period. A 24-hour time limit to implement each individual number port will be imposed on operators.

ITU Eyes Future beyond 5G with Network 2030 Initiative

Hologram technology, advanced virtual reality and haptic applications are set to be among the areas investigated by the International Telecommunications Union (ITU) Network 2030 focus group, which aims to define future network requirements. Researchers will attempt to identify demands required of future wireless and fixed networks, and generate new concepts, network architectures and solutions. The organization added it would focus on new network technologies which are also backwards compatible with existing and emerging uses. Among the use cases assessed will be the use of "high-precision communications for tactile and haptic applications" the group said, adding networks will likely need to process very high volumes of data in near real-time. The focus group will be co-chaired by: Richard Li (Huawei); Mehmet Toy (Verizon); Alexey Borodin (Rostelecom); Yuan Zhang (China Telecom); and Yutaka Miyake (KDDI Research). In a statement, ITU Secretary General Houlin Zhao said the findings would provide an international reference point to support ICT use cases in 2030 and beyond. Li added the group would "look at new media, new services and new architectures. Holographic type communications will have a big part to play in industry, agriculture, education, entertainment – and in many other fields." "Supporting such capabilities will call for very high throughput in the range of hundreds of gigabits per second or even higher," he added.



ACCC Begins Consulting on Regulation of Mobile Terminating Access Services

A public inquiry has been launched by the Australian Competition and Consumer Commission (ACCC) with a view to determining whether to extend, vary or revoke the domestic mobile terminating access service (MTAS) declaration, or whether to make a new declaration. Announcing the start of the inquiry, the regulator noted that the Competition and Consumer Act 2010 requires it to review the current declaration in the 18 months before it expires on 30 June 2019. Saying that the country's mobile industry had changed 'significantly' since the current declaration was made in 2014, it highlighted the increased use of over-the-top (OTT) services, as well as the introduction of VoLTE and voice-over-Wi-Fi (VoWiFi) calling by all of the nation's cellcos. The ACCC has suggested the public inquiry will assist it in determining whether the MTAS should remain a 'declared', or regulated, service. Commenting on the matter, ACCC Commissioner Cristina Cifuentes was cited as saying: 'Regulation of wholesale mobile termination has, in the past, helped to lower retail prices for mobile services for the benefit of consumers. This inquiry will consider whether continued regulation is needed to deliver this result … Given the pace of technological change in mobile networks, the ACCC will seek to determine whether the service description remains fit-for-purpose and accurate. We also intend to test what effect the declaration of SMS services in 2014 has had on relevant markets, in particular its impact on consumers.' Submissions to the inquiry must be made by a 14 September 2018 deadline, and the regulator has said it expects to issue a draft decision for public consultation after the inquiry closes, ahead of making a final decision.

Digital Banking Moving Pakistan towards Paperless Economy

The emerging trends of digital transactions offered by various banks vitally contribute towards a more efficient – paperless economy. Cashless transactions are becoming the most favorable mode of transactions throughout the world and the effects are also visible in Pakistan. A spokesperson from the Information Technology ministry said, "Availability of 3G and 4G service and new technology available to improve data storage and electronic communication has shifted toward a paperless environment that increases each year." Economic experts are of the view that a paperless economy is eco-friendly, it reduces the cost of production of cash and saves the paper used for making cash. It saves individuals from carrying a large amount of cash in their wallets, reducing the possibilities of theft. Risks of counterfeit money are also absent in electronic transactions. A house wife Shumaila Inaam said, "Digital banking is so convenient for women whose husbands are settled abroad and they can't leave the house due to other responsibilities". She said that online banking also allows you to transfer money between accounts, abroad and bill payments and online shopping more easily and quickly without leaving homes. A very important influence in the running of such an economy is the self-confidence that the people's money is safe in banks and reliable online store and convenience provided to public offered by various bands and telecom operators, she added. Paper based transactions remained less than half of digital and other electronic related transactions during the second quarter of FY18, according to a statement released by the State Bank of Pakistan (SBP).

Latest USDA Rural Broadband Funding Round Provides $97 Million for Projects in 11 States

The latest round of USDA rural broadband funding was announced yesterday, with $97 million allocated for projects in 11 states. The funding is a mix of loans and grants, flowing from the USDA Rural Development Telecommunications Loans and Community Grants program, and targets over 22K subscribers. The largest loan, $21.4 million, was awarded to Chibardun Telephone Cooperative in Wisconsin. The rural carrier will add FTTP capabilities and construct 675 new miles of fiber, impacting 2,700 subscribers, according to USDA. The largest grant, $2.7 million, was awarded to Osage Innovative Solutions of Oklahoma. The grant will help fund a hybrid fiber-fixed wireless project to bring broadband to an unserved portion of the Osage Nation in Osage County, according to USDA. "A person's location should not determine whether he or she has access to modern communications infrastructure," USDA Secretary Sonny Perdue said in a prepared statement. "That is why USDA is partnering with businesses and communities by investing in state-of-the-art broadband e-connectivity to remote and rural areas. These investments will expand access to educational, social and business opportunities for 22,000 subscribers to help grow their rural communities and America's economy." This funding impacts projects in Arizona, Iowa, Idaho, Maryland, Minnesota, Missouri, Nevada, Oklahoma, South Dakota, Wisconsin and Wyoming. Loan funding amounts to $87.9 million, while grant funding comes in at $9.3 million. This funding is a part of the USDA Rural Development's rural economic development program, which funds a variety of rural infrastructure projects through loans and grants.

Germany to Create €2.4 Billion Digital Infrastructure Fund to Boost Rural Connectivity

The German government is set to approve the creation of a €2.4 billion digital infrastructure fund that will help to boost connectivity across the country, according to reports in the press. Like many European countries with sizable rural populations, Germany is looking to upgrade its broadband connectivity to kick start the evolution of its digital economy. Germany's Chancellor, Angela Merkel, has repeatedly stated that overhauling the country's notoriously intermittent broadband network coverage is a key national priority. According to a report in the Financial Times the €2.4 billion fund will be drawn from higher than expected tax revenues. Currently, Germany ranks relatively poorly for full fiber FTTH network penetration, with only 2 per cent of German properties enjoying fiber to the home services. Today, the country's biggest telco, Deutsche Telekom, will deliver a program of network upgrades across the country, bringing ultrafast services to 6 million homes across the country. This figure is set to rise to 15 million by 2019 and shows DT's focus on upgrading existing copper-based network services to provide ultrafast connections, rather than laying new fiber networks (which would provide 1,000Mbps, scalable symmetrical upload and download capability). "We're building a fast Internet for the masses, instead of reserving top speeds for the few," said Dirk Wössner, managing director of Telekom Deutschland.

MTS Files Arbitration Request with ICSID over Closure of Turkmen Unit

ICSID
INTERNATIONAL CENTRE FOR SETTLEMENT OF INVESTMENT DISPUTES

Russia's Mobile TeleSystems (MTS) has announced the filing of a Request for Arbitration against the Sovereign State of Turkmenistan with the World Bank's International Centre for Settlement of Investments Disputes (ICSID). In a press release confirming the development, MTS said it had taken the action after its Turkmen subsidiary MTS Turkmenistan was 'compelled to suspend its operations in Turkmenistan due to the actions of the Government of Turkmenistan, including the actions of the Ministry of Communications and other entities owned, controlled and directed by the Turkmen State'. MTS is arguing that the Turkmenistan authorities violated its rights as a foreign investor under the 'Agreement on Promotion and Reciprocal Protection of Investments' signed between the Government of the Russian Federation and the Government of Turkmenistan in March 2009. According to MTS, the total losses caused by the violation of its rights 'have not yet been fully quantified', although it has estimated them to be at least USD750 million. While the Russian company said it had sought an amicable resolution to the dispute, it confirmed that six months ago it gave a formal notice to the Turkmen government that it would 'pursue relief under the Treaty' if no agreement was reached. With that now confirmed as being the case, MTS said it had initiated legal proceedings before the ICSID 'to protect its legal rights and investments in Turkmenistan'. As previously reported in October 2017 MTS announced it had been 'compelled' to suspend the operations of its Turkmen unit, and was swift to point the finger of blame at local state-owned operator Turkmentelecom. At the time MTS claimed the service suspension was the result of actions by the Turkmen fixed line incumbent which 'resulted in the disconnection of international and long-distance zonal communication services and internet accesses.

Swisscom Attacks Government for Delaying its Nationwide 5G Rollout Plans

Swisscom is delaying the nationwide deployment of its 5G network thanks to a restrictive political climate that is causing more expensive investment conditions, the operator has said. The Swiss operator announced earlier this year that it would be in a position to launch a 5G ready network by the end of 2018 after rolling out infrastructure in partnership with Ericsson. However, it said in February this decision hinged upon the relaxation of regulation in place to protect citizens from supposedly harmful effects of radio waves. Within the company's Q2 results, the operator said its 5G plans had been derailed by government policy. It said: "The rapid nationwide deployment of a 5G network will be delayed and thus more expensive, however, due to the strict limits that continue to prevail in Switzerland. "The political system is called upon to quickly adapt the framework conditions so that Switzerland does not lose any of its competitiveness." Switzerland's spectrum auction is due to take place in early 2019. Swisscom's plans originally were to have the 5G ready network in place so it could move quickly once the first handsets hit the market. The country's three operators have been longstanding critics of the regulatory regime, with Salt criticizing its spectrum policy and Sunrise also sharing Swisscom's concerns about restrictive safeguards against radio waves. Swisscom has been one of Europe's most active operators in its 5G testing, most recently trialing FWA in the Swiss mountain village of Guttannen. Earlier this week, Swisscom was deemed to have the best network in Switzerland, after an Ookla report judged it to have the best download and upload speeds.

A SNAPSHOT OF REGULATORY ACTIVITIES IN SAMENA REGION

Afghanistan

Further details have emerged regarding two memoranda of understanding (MOUs) signed in Afghanistan on August 11 to enhance telecommunication services across the country, a move which is also designed to improve the communications network of the Afghan National Defense and Security Forces (ANDSF). At the time of the signing Shahzad Gul Aryobee, Afghan Minister of Communications and Information Technology, said the move "is intended improve connectivity and reliability throughout the country with an enhanced national fibre-optics infrastructure". "One of my top priorities is to connect all Ministry of Defence [MoD] and Ministry of the Interior [MOI] provincial offices with each other via a national secure network," said Aryobee.
(August 22, 2018) janes.com

Bahrain

Due to growing demand for mobile broadband services in the Kingdom of Bahrain, the Telecommunications Regulatory Authority (TRA) has issued a consultation for new spectrum to be awarded in the 800MHz and 2600MHz frequency bands. The spectrum that will be made available at auction will be 60MHz in the 800MHz band, available as 2×30MHz of paired spectrum, and 140MHz in the 2600MHz band, which can be offered as paired or unpaired spectrum. The TRA stated that submission of responses to the initial consultation must be made by September 13 and that applications for spectrum licenses would run from November 11 to November 15, 2018. (August 17, 2018) telegeography.com

Bahrain's Telecommunications Regulatory Authority (TRA) has set Bahrain Telecommunications Company (Batelco) a deadline of September 6 to submit its plan to split the company into two separate entities, writes GDN Online. As previously reported by TeleGeography's CommsUpdate, the idea of splitting Batelco into retail and wholesale divisions was first put forward in May this year. The TRA has published guidelines on the matter and stated: '…the Authority expects that Batelco will implement separation by the transfer of staff and assets to the Separated Entity (SE) from Batelco. The new entity is to be efficiently resourced to deploy and operate the National Broadband Network (NBN) and associated wholesale products and services.' The aim of the separation is to create fairer competition in the telecoms sector as it will end Batelco's dominance of fiber-optic technology in Bahrain.
(August 17, 2018) telegeography.com

Bahrain's Telecommunications Regulatory Authority (TRA) has issued the Quality of Service Regulations. The purpose of this Regulation is to set out a framework for measuring, reporting, monitoring, auditing and enforcing the Quality of Service of Telecommunications Services in the Kingdom of Bahrain. In furtherance of this purpose, this Regulation:
(1) imposes obligations on Licensed Operators to periodically measure and submit to the Authority a set of Quality of Service Measurements of the Monitored Services that they provide in accordance with Schedule 1 and ensure Licensed Operators' compliance with the Targets associated with specific Parameters, where applicable;
(2) grants the Authority the power to: a. conduct Measurements, either directly or through a qualified third party, to monitor and audit the Quality of Service of the Telecommunications Services provided in the Kingdom of Bahrain; b. set out Targets associated with specific Parameters and its associated Reference Values pursuant to this Regulation; c. enforce compliance of the requirements and obligations set forth herein; and d. ensure that all or part of the Quality of Service Measurements reported by Licensed Operators and the Quality of Service Measurements, either conducted directly by the Authority or by a qualified third party on behalf of the Authority, are published in a manner that is easy to understand by End Users. (August 16, 2018) ra.org.bh

Bangladesh

The global Internet of Things (IoT) market will be worth USD 1.1 trillion in revenue by 2025 and, to become part of this global market, Bangladesh has already taken different initiatives. The global Internet of Things (IoT) market will expand by 2025 as market value will shift from connectivity to platforms, applications and services, according to new data from GSMA Intelligence. By that point, there will be more than 25 billion IoT connections (cellular and non-cellular), driven largely by growth in the industrial IoT market. The Asia-Pacific region is forecast to become the largest global IoT region in terms of both connections and revenues. "To be part of this global market, Bangladesh has already taken different initiatives. We have already started exporting IoT products," Posts, Telecommunications and Information Technology Minister Mustafa Jabbar told The Independent. "The government has an eye on increasing its use in the country. Our Hi-Tech Park will be one of the main hubs for IoT products and services," added Jabbar. "As the number of connected consumer devices and industrial machines grow rapidly, the IoT ecosystem will evolve to become a trillion-dollar market over the course of the next decade," said Sylwia Kechiche, principal analyst (IoT), GSMA Intelligence. "But the IoT revenue opportunity is shifting away from simply connecting devices to addressing specific sectors with tailored solutions, and successful ecosystem players will need to adapt their business models in line with these market trends," he also said. In July 2018, an Internet of Things (IoT) device developed by the Dhaka-based firm DataSoft will solve the water supply crisis faced by Mecca in Saudi Arabia, in what can be viewed as yet another giant stride for Bangladesh's ground-breaking tech firm. Mecca does not have a central water system, and the inhabitants get by with portable water tanks. More often than not, the households cannot tell when the tanks are nearing depletion; they only find out when the supply has ended, creating great inconvenience to them. Now, thanks to the USD-450 device developed by DataSoft, the households will get an alert when the water level in the portable tanks hits 10 per cent, indicating that a change or refill is in order. "This IoT device will ease the huge pressure Mecca city faces to properly supply water during Hajj every year, when pilgrims from all over the world flock to the country," said Mahboob Zaman, managing director of DataSoft Systems Bangladesh. Mecca-based Sakn Alwantaniya will initially take about 5,000 units of the state-of-the-art device, which will be installed inside the water tanks. More orders will be placed, depending on the efficacy of the IoT devices. Shipments will start from July 31, 2018, with a batch of 100 units. GSMA Intelligence forecasts that globally, the total number of IoT connections (cellular and non-cellular) will reach 25.2 billion in 2025, up from 6.3 billion in 2016. The industrial segment, which refers to IoT solutions deployed within enterprises or vertical-specific applications, will account for more than half the total connections by that point (13.8 billion), while the number of IoT connections in the consumer segment will reach 11.4 billion, driven by developments in the smart home market. "It's well understood that connectivity will represent only a fraction of the total IoT opportunity. Complementing our IoT connections data with this major new dataset and analysis on IoT revenue provides a comprehensive and realistic view on where market opportunities exist for operators, vendors, integrators, and everyone else playing in the IoT ecosystem," explained Peter Jarich, head of GSMA Intelligence. (August 29, 2018) theindependentbd.com

Bangladesh Telecommunication Regulatory Commission has selected four companies from eight applicants for mobile phone tower sharing company licenses. The telecom regulator finalized the decision at a special commission meeting held on Sunday, a senior official of the commission told New Age. Licenses, however, would be awarded to the companies after getting approval from the posts, telecommunications and information technology ministry. The decision was finalized based on a report of the 15-member evaluation committee that assessed the applications under the criteria mentioned in the tower sharing licensing guidelines. The evaluation process was conducted under the 'beauty contest' method. The telecom regulator, within the extended deadline of June 11 this year for the application submission, received eight applications for tower sharing company licenses. Of the applicants, edotco Bangladesh Company Limited, an associate company of Axiata Group's edotco group, got the highest — 91 marks. edotco Bangladesh is the lone entity out of the eight applicants that is already in operation in the tower sharing business in Bangladesh. To fulfil the tower sharing licensing conditions, the country's second largest mobile phone operator, Robi, has already withdrawn its ownership from edotco. Greencon Tower Company Limited is the local partner and edotco Group is the foreign partner of edotco Bangladesh Limited. TASC Summit Towers Limited got the second highest (88 marks) as per the evaluation committee report. TASC Tower, a UK-based entity that was founded in 2017, and Global Holding Corporation Private Limited, the holding company of an Indian shared passive telecom infrastructure company GTL Infrastructure Ltd, are the foreign partners of TASC Summit Towers. ISON Tower Bangladesh Private Limited, renamed as Kirtonkhola Tower Bangladesh Limited, became the third as it got 85 marks. Confidence Tower Holdings Limited is the local partner of Kirtonkhola and ECP Tower Singapore Pte is the foreign partner of the entity. AB Hightech Consortium became the fourth entity as per the BTRC's evolution committee with 82 marks. AND Telecom Limited, AB Hightech International Limited, ZN Enterprise Limited, Synergy Logistic Limited and Orange Digital Limited are the local shareholders of AB Hightech. China Communications Services International Limited and Changshu Fengfan Power Equipment Company Limited are the foreign partners of AB Hightech Consortium. Jamuna Tower Limited got 80 marks to become fifth, while FTA Bangladesh Limited became sixth with 75 marks and BD Tower Business Company Limited became seventh with 69 marks. On the other hand, Bangladesh Telecommunication Company Limited became disqualified as it does not have any foreign partner. Tower companies will be liable

to own, build and maintain all the telecom towers and operators including all mobile and other telecom service providers will take service from them. Mobile phone operators have more than 30,000 towers across the country, according to BTRC data. The government has allowed foreign entities to hold highest 70 per cent stake in a tower sharing company, while the local entities will have to hold minimum 30 per cent shares in the company. License acquisition fee and annual fee have been set at Tk 25 crore and Tk 5 crore respectively. Besides, licensees will have to share 5.5 per cent of their revenue with the government and another 1 per cent with the social obligation fund from the second year of getting licenses. Each licensee will also have to give performance bank guarantee worth Tk 20 crore to the BTRC and the telecom regulator would encash up to 50 per cent of the performance bank guarantee phase by phase for the licensee's failure in fulfilling the rollout obligation. The tenure of the license would be 15 years initially that would be extended gradually by five years.
(August 8, 2018) newagebd.net

The Bangladesh Telecommunication Regulatory Commission (BTRC) has granted a two-month extension for the launch of mobile number portability (MNP), which is now set to be rolled out on 1 October. The decision was taken in order to accommodate operators which are 'yet to complete the preparation processes for the service introduction. The BTRC also introduced a new minimum retail call rate of BDT0.50 (USD0.006) per minute (for on-net and off-net calls), up from the current minimum threshold of BDT0.25. The maximum rate that the operators can charge per minute is BDT1.50, down from BDT2.00. (August 2, 2018) telegeography.com

Bangladesh Telecommunication Regulatory Commission has initiated a move to collect data from mobile phone operators and other licensees on their advertising spending on online media that have no physical presence in the country. The online media for advertisement of goods and services include search engines Google and Yahoo, e-commerce site Amazon, social networking sites Facebook, WhatsApp and imo, video-sharing site YouTube and all other international platforms. A seven-member committee, formed following a high court order in April this year to exact revenue from the international online platforms from Bangladesh, led by BTRC Acting Chairman Md Jahurul Haque, took the decision in a recent meeting. As per the decision, the BTRC would ask all the mobile phone operators and other licensees to furnish data on how much revenue they have spent for the purpose of online advertisement, a senior BTRC official told New Age on Thursday. The committee would also ask the entities to furnish information about the agencies which were acting in Bangladesh or abroad to collect revenue on behalf of Google, Yahoo, Amazon, Facebook, WhatsApp, imo and YouTube, he said. After getting responses from the BTRC's licensees, the commission would further analyses whether the information are well enough to reach a conclusion, the BTRC official said. Earlier in April, a High Court bench also issued a rule asking the authorities concerned why a directive should not be issued to exact the revenue from these and other internet-based service providers. The HC in its order named secretaries of finance, law, information, and posts and telecommunications ministries, Bangladesh Bank governor, National Board of Revenue chairman, Bangladesh Telecommunication Regulatory Commission chairman and Bangladesh Newspapers Owners' Association president as respondents along with the authorities of Google, Facebook, and YouTube. Besides, the government was instructed to collect taxes and other duties from the entities. The National Board of Revenue immediately after the HC order initiated a move to realize value-added tax on advertisement bills paid by local companies to the global technology giants. VAT at the rate of 15 per cent will be applicable on payments against advertisements given by local firms on the global digital media outlets and other platforms. As per the move, the NBR asked its field offices for examining whether Bangladesh Bank and other commercial banks were deducting the VAT while clearing the payments. The VAT wing of the NBR also forwarded a copy of the letter to the governor of Bangladesh Bank for his appraisal. The government, after the court instruction, in its budget for the financial year 2017-2018 imposed 5 per cent VAT on online businesses. (July 30, 2018) newagebd.net

Infozillion BD Teletech is only waiting for the green signal from the Bangladesh Telecommunication Regulatory Commission (BTRC) to launch the mobile number portability (MNP) service across the country. The managing director of Infozillion BD, Mabroor Hossain, told this to The Independent yesterday. Three mobile operators—Grameenphone, Robi and Banglalink—have already completed their preparations for launching the service, but Teletalk is yet to finish its preparation, he said. When asked if it is possible to launch the service at the right time keeping the Teletalk out, Infozillion BD CEO Mohammad Zulfikar said, yes, it is possible, if BTRC wants. He also said the subscriber will have to spend Tk 30 every time to change his/her mobile operator. Apart from this, the recipient operator will pay a fee of Tk 150–170 for the transfer of the operator number (operator who receives the customer) from the donor number (operator who loses the customer). However, when a subscriber changes his/her mobile operator, he/she will have to take a SIM card from the new operator. It will be possible to change the operator within five minutes, explained Mohammad Zulfikar. The new number will get activated within 72 hours, he said. "The BTRC has instructed mobile operators to complete all the preparations by July 31. It's expected that the customers will enjoy this service from the first week of August," he added. Earlier, Sajeeb Wazed Joy, the ICT adviser to the Prime Minister, had directed the ministry concerned to complete all preparations for this service within July 31 to prevent any delay. In February, the Association of Mobile Telecom Operators of Bangladesh (AMTOB) sought a couple of months for adopting the technology needed for the service. The BTRC, however, did not grant the AMTOB its request. Later, it was alleged that mobile phone operators were trying to prevent the launch of the MNP service. Following this, the AMTOB said: "As a customer-centric industry, mobile network operators (MNOs) are very keen to facilitate their customers in choosing the operator of their choice by availing the MNP service. Just like many other countries of the world, we strongly believe our customers deserve to enjoy this freedom." More than 72 countries have the MNP service, which increases competition among operators in terms of service quality. Mobile phone subscribers will have the privilege to switch to other operators while retaining their existing phone numbers after the service is launched.
(July 29, 2018) theindependentbd.com

Egypt

The National Telecom Regulatory Authority (NTRA), participated in the 5th Ordinary Session of the African Telecommunication Union (ATU) Conference of Plenipotentiaries (CPL-18), held on August 16-17, in Nairobi, Kenya. CPL-18 preceded by four other related meetings, which are: The Special Session of the Administrative Council on August 9–10, the 3rd Regional Preparatory Meeting for International Telecommunication Union (ITU) Plenipotentiary Conference (ITU PP-18) on August 13–14, the Conference Preparatory Committee (CPC) August 15 – 16 and the Ministerial Roundtable on August 16. ATU CPL is held quadrennial. It is the highest body of the ATU, responsible for developing ATU general strategy, to be implemented by ATU members within the next four years, in addition to conducting elections for the post of ATU Secretary General, and the elections of the Member States of the Administrative Council, which consists of 22 states, out of the whole number of ATU Member States which total 44. Prior to holding the Conference, the Ministerial Roundtable was held, gathering Ministers of Member States, and discussed telecommunications/ICTs in Africa: current and future outlook of regulations. Topics related to the development of the ICT sector in the African continent were also discussed. In addition, Member States showcased their best experiences and achievements. Egypt participated in ATU previous CPLs of 2006, 2010 and 2014. It also hosted and chaired the meetings of the ATU Administrative Council, in 2016 in Cairo. This is in addition to its annual participation in ATU Administrative Council meetings. Egypt's participation in this session is very significant to maintain its membership in the ATU Administrative Council, during which its Member States will be elected. This is in addition to participating in the electoral process for the post of Secretary General for the next session (2019-2022); participating in developing the ATU Strategy over the next four years; and presenting Egypt's role in contributing effectively to the development of the ICT sector in African countries. Egypt has a distinct and prestigious position within ATU as one of its founding members and one of the countries that ATU Secretariat relies on to lead the African section in international forums and defend its interests. Egypt plays a leading role in the Union and contributes effectively to the development of ICT sector in the African continent. ATU is the leading continental organization fostering the development of ICT infrastructure and services, with a current membership of 44 Members States and 16 Associate Members.

(August 18, 2018) mcit.gov.eg

The Prime Minister and Minister of Housing Mostafa Madbouly has held a meeting with the ICT Minister Amr Talaat to follow up on the implementation of the Ministry of Communications and Information Technology (MCIT) Strategy during the coming period. At the outset of the meeting, Madbouly ascertained that the government pays due attention to Egyptian human building, providing the training necessary for employment to support the local demand and free labor market in most of ICT specializations. He highlighted the importance of training and qualifying young people for finding distinctive job opportunities. During the meeting, Talaat presented MCIT strategy pillars, which depends on a number of areas, foremost of which is Egyptian human building through focusing on the sectors of education, health and culture and maximizing benefiting from human resources and People with Disabilities (PwDs), while giving due consideration to the social and development aspects. He presented the professional training grants for excellent students ranging from three to six months of continuous training, announcing that the nine-month grant has already been launched to begin in October 2018 in five governorates, targeting 1,000 trainees. He added that 10,000 training grants ranging from three, six and nine months are targeted. He stated that 50% of the trainees earn global certificates in their technology specializations and 80% of graduates are expected to be employed in their respective specializations, in addition to maintaining self-training programs which target 20,000 graduates. In the same context, the ICT Minister showcased the efforts already exerted to provide the necessary technological qualification for PwDs. Twelve punitive institutions were developed, 29,000 teachers for special education and integration schools were trained, 600 schools of special education and integration and 200 community schools were developed. This is in addition to providing 2000 training opportunities— 70% of which in Upper Egypt— and creating jobs for about 50% of graduates. In this regard, he pointed out that computer labs are targeted to be developed in orphanages and punitive institutions to build the technological capabilities of their inmates. The ICT Minister referred, also, to the rest of MCIT strategy pillars representing in relying on the digital economy by providing a national database aimed at increasing the analytical capacity of the Egyptian state to manage, evaluate and improve all policies using data and evidence, thus improving the quality of life and rationalizing the use of the country's resources and capabilities. As for the technology parks project, the ICT Minister stated that Assiut and Borg Al Arab technology parks have already been completed, while 95% of Beni Suef technology park and 75% of Sadat technology park are approximately completed. Talaat pointed out that the aim of establishing these technology parks is to develop the information technology industry by supporting innovators and Small and Medium Enterprises (SMEs); providing job opportunities in the governorates; and attracting local and foreign investments, thus ensuring the provision of distinguished electronic services to citizens and companies from the Egyptian government portal, mobile applications, service and call centers.

(August 5, 2018) mcit.gov.eg

Jordan

Orange Jordan has expanded its LTE-A network to areas of the southern governorates and launched fibre-to-the-building/fiber-to-the-home (FTTB/H) in the same areas, the telco announced at a press conference this week. Orange added 44 new mobile towers across the region – 14 in Aqaba, nine in Ma'an, ten in Tafileh and eleven in Karak – whilst upgrading its network to '4G+' in 31 locations: Aqaba, nine; Ma'an, ten; Tafileh, six; and Karak, six. In the fixed segment, Orange claims to have increased broadband access speeds by as much as 55% by the installation of 21 new ADSL sites in the southern provinces and the expansion of its fibre footprint in the region, the latter primarily being used to serve the business sector. The operator notes that the rollout forms part of its current five-year development strategy, 'Essentials 2020', which aims to develop the nation's IT sector and increase the availability and usage of internet in the Kingdom, and features investment of JOD300 million (USD422 million).
(August 18, 2018) telegeography.com

Kuwait

CITRA has started to block Caller ID applications due to their privacy violations of the individual's private data leaving them with security problems such as identity theft, fraud, domestic violence, family disputes and bank thefts. CITRA affirms its complete rejection of violations that invades privacy and the protection of personal data. CITRA's move towards caller ID Smart-phone applications considers to be a positive objective, since its relating to citizens privacy, security and safety. CITRA has approved Privacy Protection regulation by the Board of Directors to ensure that the personal data of individuals are protected. Sharing private information with third parties is forbidden without the individual's knowledge and permission. Whoever violates the regulation will be legally liable for illegal acts.
(August 12, 2018) citra.gov.kw

Oman

According to Telecommunications Regulatory Authority's recently released 2017 annual report, revenue growth in Oman's telecom sector was nearly two per cent in 2017. Total revenue in the sector stood at RO854.58mn in 2017 compared to RO838.75mn in the previous year. The growth in the sector had touched a record of nearly ten per cent in 2015, after that growths have been declining continuously. The TRA report showed that mobile services accounted for the vast majority (around 70 per cent) of total revenue generated in 2017 in the sector, followed by fixed-line revenues, which stood at 29 per cent of the total. Other services accounted for just one per cent of total revenue. The average revenue per mobile subscription also fell for the second straight year to RO7.2 in 2017 compared to RO7.3 in the previous year. Similarly, the average revenue per fixed telephone subscription continued to fall to touch lowest level of RO4.1 by end of 2017. The revenue per fixed-line stood at RO7.1 in 2013 and since then the revenue has been continuously falling. The report showed that total royalty collected by the government from active licensees for the year 2017 rose to RO53.92mn from RO51.93mn in 2016.
(August 29, 2018) muscatdaily.com

The Telecommunications Regulatory Authority (TRA) is planning to roll out Fifth-Generation (5G) international mobile data telecommunications networks in Oman. For this, the TRA has established a national level team. "The 5G national team includes members from TRA and mobile network operators in the Sultanate, who aim to develop a 5G strategy that will facilitate the 5G-network deployment in Oman and will address the likely challenges that surface during implementation," the TRA announced in their annual report 2017.(August 28, 2018) zawya.com

The Telecom Regulatory Authority (TRA) will be carrying out a review of the telecom market in Oman and identify constraints to competition as well as prevent abuse of dominant position by operators. The authority is commissioning a consultancy project to assist it to carry out second 'Market Review' covering all steps for Market Definition and Dominance Decision (MDD). The first such review was carried out in 2013. TRA, therefore, is inviting experienced consultants to submit their consultancy proposals for the subject tender by August 28. The consultant will review all previously defined markets (retail and wholesale) and propose introduction of new markets, where required, for fixed, mobile and data services over which TRA has regulatory oversight. "The consultant is expected to identify the competitive conditions affecting the supply of the services by assessing systematically the competitive constraints faced by suppliers of these services. Where dominance is identified, the consultant is expected to propose measure that should be implemented to prevent abuse

of dominant position," the TRA stated. Although, TRA identified markets and the licensees who were dominant in its MDD Decision 2013, it is not sure if these markets or dominance in these markets remain the same. Since 2013, the telecom market of Oman has witnessed many developments including, but not limited to, introduction of new players, introduction of new services, change in substitutability of services and level of competition. "TRA is also cognizant of new concepts (e.g. Over-The-Top content, IP interconnection, Internet of Things, cloud computing, Internet exchange points etc.) that directly or indirectly has impact on the market reviews. As such, market definitions and dominant positions may have changed since the last market assessment. It may also be noted that the MDD Decision of 2013 is also due to be revised in 2018, therefore TRA now intends to review all existing and potential new markets," it said.
(August 5, 2018).muscatdaily.com

Pakistan

Telecom sector contributed Rs 684 billion in terms of taxes and duties from the fiscal year 2013 to the fiscal year 2017 while investment by telecom companies during the same period was $4.2 billion and foreign direct investment stood at $2.3 billion. This was submitted by Pakistan Telecommunication Authority (PTA) before the Senate Cabinet Committee presided over by Senator Talha Mehmood. The committee was also informed that four mobile operators' contribution to government levies was Rs 68.37 billion in the year 2017 while their revenue was Rs 436 billion. The four mobile operators include CMPak Zong, Telenor Pakistan Private Limited, Pakistan Mobile Communication Limited (Jazz) and Paktelecom Mobile Limited (Ufone). Zong's contribution to the government levies was Rs 9.71 billion, Telenor submitted Rs 18.83 billion, Jazz contributed Rs 30.81 billion, and Ufone added Rs 9.02 billion government's levies. As far as revenue of different mobile phone companies in the year 2017 is concerned, Zong's revenue was Rs 64.60 billion, Telenor made Rs 113.76 billion, Jazz recorded Rs 206.23 billion, and Ufone revenue stood at Rs 52.04 billion, said a brief prepared for the meeting. PTA's contribution in Federal Consolidated Fund (FCF) during fiscal years 2013-18 was Rs 191.36 billion, while auctions during years 2014, 2016 and 2017 produced a total of US $1.9831 billion including advance tax while spectrum auction for wireless local loops (WLL) services in Azad Jammu and Kashmir and Gilgit-Baltistan in 2015 produced Rs 108.5 million. The total number of mobile broadband subscribers has reached 58.33 million, broadband penetration is 28.27 percent and total cellular mobile subscriber density has reached 74.1 percent in the country. (August 16, 2018) propakistani.pk

Keeping in view the significance of 5G, its scope and usage, PTA is going to hold a discussion session with industry on way forward to deploy IoT use cases and conduction trial of IoT in Pakistan. The Government of Pakistan (GOP) has issued a policy directive to start 5G trial services in Pakistan and the regulator feels it is high time to discuss with the industry stakeholder implementations challenges and opportunities of IOT especially through upcoming technology 5G. PTA has called a meeting of all operators, services provider, OEM and other interested parties at PTA Headquarter Islamabad. All the expertise from the Telecom sector, vendors, Academia, Regulators & GOP have shown interest to attend the session. PTA has indicated in its letter to the industry that they want to discuss case studies of 5G trials and its early launch in Pakistan via which they successfully enable the opportunities by IoTs in different industry i.e. health, education, and agriculture fields. The talks of the 5G are rollout and the policy for its introduction are circulating in the industry, and the regulator has taken a major initiative of stakeholder consultation by announcing its intention as per policy directives for early introduction of 5G in the country. Pakistan has made major progress in terms of mobile broadband and subscriber uptake and the regulator wants to consult with the industry on what more can be done to harness the phenomenal growth potential that still exists. Although there is no single perfect recipe to maximize the uptake, however, PTA and the industry need to understand what value drivers are needed to be considered in order to increase the uptake in the country and get prepared for the next mobile broadband revolution. (August 2, 2018) phoneworld.com.pk

Saudi Arabia

KPMG Al Fozan & Partners, a leading professional services firm in Saudi Arabia, and the Kingdom's Ministry of ICT have partnered to set up to a center to develop digital solutions in the field of Artificial Intelligence (AI) and advanced data analytics. The memorandum of understanding (MoU) was signed by Dr Ahmed Al-Theneyan, Deputy Minister of Technology Industry and Digital Capacities, and Abdullah Al-Fozan, chairman of KPMG MESA and KPMG Saudi Arabia. The Innovation and Insights Center represents the key component of KPMG's global innovation strategy for data and analytics, which combines the principles of collaborative and stimulating learning environments and cutting-edge technology, to deliver creative solutions for challenging business needs. The center will act as the gateway for the delivery of digital transformation solutions and services in the Kingdom. KPMG, in turn, will provide job and training opportunities in data analytics and AI, and digital transformation solutions in the Kingdom, for enhancing the efforts of building digital cadres and supporting the development process in Saudi Arabia. Following

the signing of the agreement, Haitham Al-Ohali, Vice Minister of Communications and Information Technology, praised KPMG's contribution to national capacity-building and the enhancement of digitalization, while indicating that the Ministry is keen on collaborating with the private sector to create a digital environment that embraces, fosters and attracts talents and skills in digital transformation and augments quality job opportunities. This will eventually promote and boost national productivity, develop the domestic technical content, and contribute to the establishment of a competitive, top-notch technological sector that is up-to-date with global advancements and achieves economic sustainability, pioneering entrepreneurship and innovation at both regional and global levels. The Ministry's work plans for the year 2020 include focusing on the development of human capital and the augmentation of job opportunities in the ICT sector, with the help of training programs and creating jobs in this sector in various fields, including emerging technologies such as AI, IoT, and robotics. Abdullah Al-Fozan, chairman of KPMG Middle East and South Asia and KPMG Saudi Arabia, stated that this agreement is a strategic fit for the digital transformation plans that are deemed essential components of the Kingdom Vision 2030 and the National Transformation Program. The company's investment in the new Insights Center will help build a thriving economy, develop domestic talents and provide more jobs for Saudi citizens in new areas such as AI, information security and data analytics, while boosting competitiveness and entrepreneurship in the ICT sector. (August 7, 2018) tradearabia.com

Sri Lanka

The government has reportedly removed floor rates for voice call charges in the country, in a bid to promote cost optimization and boost competition in the industry. The country first introduced floor rates for calls and SMS in July 2010 under the previous government after years of what analysts termed 'bad policy decisions and regulatory inaction that led to a crisis in the industry'. Online news portal Adaderanabiz quotes the Telecom and Digital Infrastructure Minister Harin Fernando as saying that the decision to remove the floor rates is targeted 'at bringing more benefit to telecom users as well as companies'. The minister confirmed that the Telecommunications Regulatory Commission of Sri Lanka (TRCSL) has sent letters to Sri Lanka's operators informing them of the change in terms, coming at a time when new Finance Bill amendments propose to increase taxes on the telecoms industry. The amendment also proposes a levy on short message services, charging LKR0.25 per SMS for all bulk advertising messages, payable by the advertiser. 'The floor rates were implemented in 2010 to help the large operators. The new move will ensure cost optimization by operators and will give hope for small operators,' the minister told reporters. But from February 1, 2016, Adaderanabiz notes, under the new government, TRCSL introduced a new common floor rate for the Sri Lanka telecom industry, with the aim of creating a level playing field to enable small operators with a lower market share to be more competitive.
(August 21, 2018) telegeography.com

Turkey

The transfer of a 55% stake in Turk Telekom (TT) to a group of creditor banks via a special purpose vehicle (SPV) has been approved by the Ministry of Treasury and Finance, paving the way for the completion of the transaction. In a brief regulatory disclosure, the telco confirmed: 'According to legal notification from the Ministry of Transport and Infrastructure, the takeover of Ojer Telekomunikasyon AS's (OTAS) 55% shares in our Company, Turk Telekomunikasyon (Turk Telekom), by an SPV, which the creditor banks of OTAS would be shareholders, has been approved by the Ministry of Treasury and Finance.' TeleGeography notes that OTAS had put up 55% of Turk Telekom's shares as collateral for a loan of USD4.75 billion in 2013. After two years of negotiations regarding the failed repayments, creditor banks, including Akbank, Garanti and Isbank, applied to the Competition Board to take over the shares in July. The Information & Communication Technologies Authority (Bilgi Teknolojileri ve Iletisim Kurumu, BTK) approved the transfer on 17 August 2018. OTAS is a Turkish holding company currently owned by Dubai-based consortium Oger Telecom, itself controlled by Lebanon's Hariri family (47.3% via Saudi Oger), Saudi Telecom Company (STC, 35.0%) and others (17.7%). The Turkish government retains a 25% direct stake in TT plus a 'golden' voting share. (August 29, 2018) telegeography.com

The transfer of a majority stake in Turk Telekom (TT) to a group of creditor banks via a special purpose vehicle (SPV) has been approved by Turkey's telecoms regulator the Information & Communication Technologies Authority (Bilgi Teknolojileri ve Iletisim Kurumu, BTK), TT confirmed in a regulatory disclosure posted on its website on 17 August 2018. The statement added that BTK had concluded that the share transfer will have 'no adverse consequences' regarding the national fixed line incumbent's wholly-owned broadband, mobile and international telecoms operating subsidiaries. Last month the creditor group led by Turkish banks Akbank, Garanti Bank and Isbank also applied to Turkey's Competition Authority to take over TT's 55% controlling stake – currently held by Ojer Telekomunikasyon AS

(OTAS) – via the SPV. In January the private banking trio – three of OTAS' largest creditors – agreed on a plan to slice up the 55% stake between a total of 29 banks forming the SPV, with a view to eventually reselling the shares. OTAS is a Turkish holding company currently owned by Dubai-based consortium Oger Telecom, itself controlled by Lebanon's Hariri family (47.3% via Saudi Oger), Saudi Telecom Company (STC, 35.0%) and others (17.7%). The Turkish government retains a 25% direct stake in TT plus a 'golden' voting share. In other news, Reuters reported that TT has inked a smartphone cooperation deal with Turkish manufacturer Vestel after President Tayyip Erdogan called on Turks to use locally-made mobile handsets instead of US-based Apple's iPhone, as diplomatic relations between the two countries worsen. (August 21, 2018) telegeography.com

United Arab Emirates

The Telecommunications Regulatory Authority (TRA) launched its information security awareness campaign "Don't be deceived", by organizing more than 15 live episodes on Twitter, Facebook and Instagram. The live episodes aimed to discuss the most important information security topics in order to raise awareness of public in various segments and age groups. The campaign was implemented in cooperation with the National Emergency Response Team (aeCERT) in TRA. It has been adopted as an innovative mean for raising public awareness in line with global information security standards and practices, to protect and support the ICT sector infrastructure in the UAE from online risks and hacks of individuals, and to build a safe and secure IT culture. Mr. Mohammed Gheyath Executive Director Information Security Regulatory in TRA said: "TRA seeks to use all available channels and platforms to communicate with the public and deliver its message of social responsibility, inspired by our wise leadership directives to enhance community's happiness through government entities' social responsibility. The UAE has been in the forefront of using social media to listen to people's opinions and respond to their suggestions and comments, which lead to improving services and developing policies and methods of government work. In this context, the UAE has achieved remarkable progress in the United Nationals e-Participation Index, advancing from the 32nd rank in 2016 to the 17th in 2018, which reflects the general impression that the UAE is open to all new media platforms in communication with the society." The episodes have been broadcasted regularly since the beginning of 2018. The most important episodes were: Don't be deceived, dangers of electronic games, protecting our children from cyber blackmail, WhatsApp Hacking, phishing, email security, Hemayati application, and others. The live online episodes have gained their importance through cooperation with TRA strategic partners such as Ministry of Interior, Ministry of Community Development, Sharjah Media Corporation in addition to the UAE media sector such as Al Bayan, Gulf News and Khaleej Times. Moreover, TRA conducted seven live online episodes during Ramadan 2018, of which the views reached more than 450,000 views on the 2-steps verification feature, smart phone updates, password variations, privacy settings, and importance of verification. Regarding the initiative working mechanisms, Sara Al Marzooqi, Training and Development Specialist of mGovernment Programs, said: "It is important to recognize social media as a mean and not an aim in itself. It is important to use social media platforms to achieve the entities' strategic objectives as it is unlikely to reach a complete system of any entity or department seeking to provide best services without these channels, which have become an inseparable part of our professional and personal daily life." TRA is one of the first government entities to adopt social media channels for communicate with the public. TRA interacts positively and actively with the public through social media channels in accordance with global best practices. TRA is also among the firsts to adopt the social media policy in accordance with the Social Media Guidelines of UAE Government entities. (August 14, 2018) tra.gov.ae

The "Start Your Business in 15 Minutes 'Bashr' initiative, launched earlier this month by the General Authority for Regulating the Telecommunications Sector (TRA) covers up to 1200 business activities in its first phase, according to a TRA official. "Bashr" initiative, launched in collaboration with all local and federal government departments and entities involved in licensing economic activities in the UAE, aims to promote UAE's competitiveness in doing business by allowing both Emiratis and residents to start business in simple and fast steps, taking a brisk 15-minute period. The initiative ensures shortening the time taken to establish companies, and providing a smart national platform for customers to complete their business registration from any location in the UAE within 15 minutes by simple, online transactions without the need for paperwork. Speaking to Emirates News Agency (WAM), Engineer Mohamed Al Khamis, Director of the mGovernment Program, has stated that the "Bashr" initiative is based on the UAE vision to ensure Smart Government transformation and contribute to building a competitive, knowledge-based economy. "The initiative includes strategic partners in Ras al-Khaimah, Ajman, and Fujairah and will be launched later across other emirates, in Abu Dhabi, Dubai, Sharjah and Umm Al Qaiwain by September 2018 at the latest, according to how far each emirate is ready to meet its requirements," he added. "The first phase of the initiative covers more than 1200 activities, all of which can be availed of by both Emiratis and residents alike without any external approvals, with all federal and local fees to be paid all in one go," he added. Overseas investors would be able to benefit from the initiative's second phase, which will also enable businesses to register for VAT and open bank accounts, in addition to other services, including the possibility of setting up a P.O. Box, he said. The initiative contributes to the achievement of the objectives of the National Agenda for UAE Vision 2021, and has been adopted based on the results of the annual meetings of the UAE government through the theme of smart services. (July 29, 2018) zawya.com

REGULATORY ACTIVITIES BEYOND THE SAMENA REGION

Australia

The Australian Communications and Media Authority has set out how it plans to enforce new rules on services delivered over the NBN. Providers not implementing the service standards risk fines of up to AUD 10 million. The new rules require telecom providers to help consumers get the information they need to make informed choices, have service options if issues arise, and address consumer complaints effectively and in a timely manner. Separate research published by the ACMA shows that three in 10 households (31%) and four in 10 businesses (42%) had made at least one complaint to their provider over services on the NBN. The new rules will be directly enforceable by the ACMA and, where breaches are found, allow the ACMA to commence court proceedings seeking remedies such as injunctions and civil penalties. The regulator said operators need to "take immediate steps" to implement the rules in their business practices and it has already commenced a targeted program of monitoring, audits and investigations to ensure compliance. The regulator also released detailed findings of the research report 'NBN consumer experience: Households and businesses—the end-to-end journey', which looks at the experiences of NBN users. Research conducted from November 2017 to February 2018 asked consumers about their experience of moving to and using services in the previous 12 months, and the results were used to help develop the new service rules. (August 22, 2018).telecompaper.com

The Australian Communications and Media Authority (ACMA) has finalized the arrangements for the 5G spectrum auction, saying it will be held in late November. The ACMA will auction off 125MHz of spectrum in the 3.6GHz band, with 350 lots across 14 regions of Australia. The non-refundable application fee to take part in the auction has been set at AU$10,000, with the metro spectrum reserve price to be AU$0.08 per MHz per population excluding Perth lower lots and AU$0.053/MHz/pop for Perth lower lots. The regional spectrum will start at AU$0.03/MHz/pop, with all lots to be auctioned off in an enhanced simultaneous multi-round ascending format using software developed by Power Auctions. "As a key enabler of the digital economy, the 3.6GHz spectrum will ensure Australia is well placed to realize the benefits of 5G. Timely release of 5G-compatible spectrum will facilitate the early delivery of next-generation 5G services to the Australian public and industry," ACMA Chair Nerida O'Loughlin said on Monday morning. "The ACMA has designed an auction process -- including starting prices -- that aims to maximize efficiency, competitive outcomes, and the full utility of this spectrum for 5G." The Australian government had last month announced the competition limits of its 3.6GHz spectrum auction, directing the ACMA to impose an allocation limit of 60MHz in metro areas and 80MHz in regional areas. Such limits would impact carriers that already have holdings across the 3400-3700MHz band, the Department of Communications said. This will "allow for a competitive auction process while preventing any one bidder from acquiring an amount of spectrum which could preclude other telcos from rolling out 5G networks", according to the government. "The next generation of mobile services, 5G, will deliver significantly faster mobile data speeds and allow for millions of new devices to connect. The 3.6GHz band is recognized internationally as a key band for telcos to roll out new 5G networks," Communications Minister Mitch Fifield said in July. "These auction limits promote competition in the telecommunications industry while ensuring this scarce spectrum is put to its highest-value use." The ACMA had in May released detail on how it will auction off the 3.6GHz spectrum later this year to mobile telecommunications providers, which will use the band to launch 5G services. This followed the ACMA releasing its five-year plan for spectrum allocation in October last year, alongside "a range of mitigation measures" for incumbent users in the 3.6GHz band, including "a commitment to developing arrangements for site-based wireless broadband services in the 5.6GHz" band, support for ongoing access to spectrum, and identifying earth station protection zones on Australia's east coast. This followed arguments from incumbent wireless ISPs and satellite groups that the spectrum should not be taken away from them and given to mobile telcos. Australia's Bureau of Meteorology has also raised concerns that moving wireless providers to the 5.6GHz band could impact weather satellites across most of the nation. In March, Fifield then announced that current services in the 3.6GHz band will have up to seven years to vacate in regional areas, and only two years in most capital cities. The federal government's 5G policy paper was released in October, announcing that the ACMA would bring the 3.6GHz spectrum band for 5G use to auction in 2018, followed by millimeter-wave (mmWave) spectrum in 2019.

(August 6, 2018) zdnet.com

Belgium

Telecoms watchdog the Belgian Institute for Post and Telecommunications (BIPT) has published proposed legislation to auction new mobile frequencies next year, with the aim of attracting a fourth mobile network operator (MNO), writes RCR Wireless. Within the legislation document is a requirement for existing operators Proximus, Orange and BASE to offer national roaming on their networks. The proposals set by the BIPT are subject to feedback from advisory bodies, with the government keen to award 5G spectrum in late-2019. The government hopes to award spectrum in the 700MHz, 1400MHz and 3600MHz frequency bands, with the authorities also confirming that renewals of all existing licenses due to expire in March 2021 will also be included in the auction process. The new 5G licenses are expected to be awarded for 20-year terms and the BIPT also reiterated its belief that the entry of a fourth MNO will allow for lower prices, more innovation and a more competitive environment, leading to better customer choice and experience.

(August 16, 2018) telegeography.com

The regional Belgian government of Flanders has issued a framework contract to three telecoms players Nextel, Proximus and Orange for fixed and mobile services, as well as a virtual phone exchange, writes Datanews. The contract is valid for a period of seven years and means that government organizations in Flanders can choose whether or not they subscribe to it. Ministries, agencies, cities, provinces and local police are all able to acquire telecoms services as part of the agreement. In the agreement Proximus was awarded the segment for fixed telephony, marketing numbers and fixed data communication, as well as responsibility for mobile telephony and data services. Orange will provide mobile data services for M2M/IoT, while Nextel will serve the region with virtual PBX services, supporting fixed-mobile convergence.

(July 30, 2018) telegeography.com

Brazil

The National Telecommunications Agency (Agencia Nacional de Telecomunicacoes, Anatel) has initiated a consultation regarding the potential use of the 2300MHz band for 5G mobile services. Billed Public Consultation No. 25, the watchdog seeks to gauge stakeholder comments regarding possible usage models for the band. The consultation commenced on 16 August and will remain open for 30 days. In November 2017 Anatel signed Resolution No. 688, confirming that the spectrum in question would be revoked from Auxiliary Broadcasting and Related Services (Servicos Auxiliar de Radiodifusao e Correlatos, SARC) and replay TV (Repeticao de Televisao, RpTV) license holders.

(August 21, 2018) telegeography.com

Canada

Canada's telecom regulator is giving consumers until September 7 to answer an online survey about sales tactics used by the country's largest phone, cable and internet service providers. The 11-day online survey conducted by Ipsos is part of a months-long process leading to public hearings to be held by the Canadian Radio-television and Telecommunications Commission starting on October 22. Innovation, Science and Economic Development Minister Navdeep Bains, who is responsible for telecommunications, ordered the CRTC investigation in June after media reports and direct complaints about how telecom services are sold. In particular, the inquiry wants to address complaints that prices for services may be unpredictable or higher than expected and sales messages may result in stress, confusion and frustration. (August 27, 2018) calgaryherald.com

Czech Republic

The proposed auction of 694MHz-790MHz ('700MHz') spectrum in the Czech Republic has taken another step forward, with the Czech Telecommunication Office (Cesky telekomunikacni urad, CTU) issuing its 'framework position' after completing the first stage of its industry consultation. Underlining its commitment to ensuring full transparency, the CTU has noted that its negotiations with representatives from the Ministry of the Interior are ongoing, while feedback received during the first consultation will be factored into the next stage of the selection process. On June 1, 2018 the watchdog set out its initial auction proposal, which is expected to see the sale of six 2×5MHz paired blocks spanning the 703MHz-733MHz and 758MHz-788MHz frequency ranges. The 5G-suitable 700MHz band will be released on June 30, 2020. (August 6, 2018) telegeography.com

Dominica

The government has approved a plan to introduce mobile number portability (MNP), it was disclosed by the Minister of Information, Science, Telecommunications & Technology, Kelver Darroux, quoted by Dominica Vibes News following a cabinet annual budget meeting. MNP will be implemented as part of wider telecoms legislation reforms being undertaken by all Eastern Caribbean Telecommunications Authority (ECTEL) member states, with Dominica's Telecommunications Act of 2000 set to be replaced with a modernized Electronic Communications legal framework. As reported by CommsUpdate, last month ECTEL signed a prerequisite protocol for the long-awaited promulgation of the Electronic Communications Bill and a raft of upcoming new regulations in Dominica, Grenada, Saint Kitts & Nevis, Saint Vincent & the Grenadines and Saint Lucia.

(August 8, 2018) telegeography.com

France

The French government has launched a call for applications for the reallocation of frequencies in the 900MHz, 1800MHz and 2100MHz bands, following a public consultation in April/May. The original authorizations in the 900MHz and 1800MHz bands awarded to Orange, Altice France (SFR) and Bouygues Telecom in 2006 and 2009 expire in 2021 and 2024, while their 2100MHz concessions are valid until 2021 and 2022. Applications must be submitted before 2 October 2018 to French telecoms regulator Arcep, which will conduct the award procedure. The new licenses will come with obligations which will ensure that all 'white spaces' (areas with no mobile services) are covered by high speed wireless networks. Each successful bidder will be required to construct 5,000 new 4G sites in areas identified by the Minister for Electronic Communications, while also equipping all 2G/3G sites to support 4G technology (covering an additional one million people in 10,000 communes). In addition, Arcep has amended the authorizations of Bouygues Telecom, Free Mobile, Orange and Altice, in order to make the coverage commitments for the period 2018-2021 (agreed with operators in January 2018) binding and enforceable.

(August 6, 2018) telegeography.com

Ghana

The Nation Communications Authority (NCA) is to announce its latest move on the sale of the country's last 4G spectrum. Players in the telecommunication sector have described the reserved price of about $67 million as expensive. The NCA is to announce a plan of awarding the 4G spectrum to interested companies in piecemeal. In December 2015, the telecoms regulator auctioned two blocks of 800MHz bands of LTE Spectrum at a reserve price of about 67 million dollars and invited telecom companies to bid. However, only MTN participated in the auction for one block at the reserve price; whilst the others abstained. Their major reason for abstaining was the cost of the spectrum which they described as expensive. Since then many moves have been made by some telecommunication companies to get a portion of the 4G. On the part of Vodafone, they have made moves to acquire Surfline to be able to offer the service but the NCA is yet to approve the move. Deputy Communication Minister, George Andah last month indicated that government was not going to reduce the price of the spectrum. He also indicated then, that government plans to soon award the last remaining 4G spectrum to another telecommunication network. The latest information Starr Business has gathered is that the NCA would be selling the remaining block of 4G spectrum in bits. This will mean that the cost of the remaining 800MHz bands of LTE Spectrum will be shared among interested telecommunication companies in the country. The move is to afford more players the opportunity to provide the 4G service to their customers but some players are not happy, saying it will affect the quality of the service.

(August 27, 2018) ghanaweb.com

Guatemala

The Superintendence of Telecommunications (Superintendencia de Telecomunicaciones, SIT) has revealed that it plans to stage an auction of 1700MHz AWS frequencies in June 2019. Selvin Juarez, head of the SIT, and Cristian Aguilar, the Vice Minister of Communications, informed Prensa Libre that the auction is likely to involve the sale of a 90MHz block of spectrum, although a precise breakdown of lots has not yet been disclosed.

(August 16, 2018) telegeography.com

Hong Kong

Hong Kong's Communications Authority (CA) and the Commerce and Economic Development Bureau (CEDB) have opened a joint consultation into the assignment of 5G-suitable spectrum in the 3.3GHz and 4.9GHz bands. 100MHz of frequencies will be made available in each band, with the 4.9GHz spectrum open for nationwide usage and the 3.3GHz range earmarked for enhancing coverage in indoor locations. The regulator expects to assign the spectrum via an auction. 'The auctioning of spectrum will ensure that such scarce public resources be put into the hands of those who value it most and who will consequently put it to the most efficient use, to the benefit of the public at large,' a spokesman for the CEDB said. (August 29, 2018) telegeography.com

The government believes that market competition will help to keep end user costs down in the future 5G mobile market. Secretary for Commerce and Economic Development Edward Yau Tang-wah is quoted by the South China Morning Post as saying: 'Through market competition, even though there were auctions [for the existing networks], the service charges of Hong Kong's network still look attractive when compared with other places.' As part of its plans to award spectrum for 5G services, the government says 4,100MHz of frequencies in the 26GHz and 28GHz bands could be allocated at little or no cost to operators due to supply outstripping demand. 'That means it will greatly reduce the cost and also shorten the time involved,' Yau said. Several Hong Kong telcos have in the past been critical of the government's plans to not award 5G spectrum until 2020, fearing that the local market could get left behind when compared to mainland China and other Asian countries. (July 30, 2018) telegeography.com

India

Growth in the Indian telecom market accelerated to net subscriber additions of 15.37 million in June, nearly triple the previous month. In total, the country grew by 1.33 percent in the month to 1.169 billion telecom users, the regulator Trai reported. The overall teledensity in India reached 89.72 percent, versus 88.62 percent in May. The mobile customer base totaled 1.146 billion in June, up by 15.49 million from the previous month. Growth was roughly evenly divided between rural and urban subscribers, with respectively 7.55 million and 7.94 million net additions in the month. Trai also counted 4.11 million requests for mobile number porting in the period. Active mobile subscribers totaled just over 1.00 billion. Private operators held an 89.83 percent market share of India's mobile subscriber base in June, while state-owned companies BSNL and MTNL had a market share of 10.17 percent. Bharti Airtel remained the largest operator with a 30.05 percent share, followed by merger partners Vodafone India and Idea Cellular with respectively 19.43 and 19.24 percent. Reliance Jio Infocomm was in fourth place with 18.78 percent of mobile customers and also showed the strongest growth, with net additions of 9.71 million in the month. Idea accounted for much of the rest of the growth in June, with net additions of 6.37 million. Wireline subscribers fell by 110,000 over the month to 222.40 million. Broadband subscribers totaled 447.12 million, including 429.22 million on mobile, up from 432.00 million in May. Reliance Jio had the most wireless broadband subscribers, at 215.26 million, while BSNL led the wireline market, with 9.15 million fixed broadband subscribers. (August 21, 2018) telecompaper.com

Indian telecoms watchdog the Telecom Regulatory Authority of India (TRAI) has published its recommendations for the upcoming spectrum auction, including frequencies in the 3300MHz-3600MHz range that the agency expects to be used for new 5G developments. Following its public consultation, the TRAI has recommended that, with a small number of caveats, all of the available unsold and expiring spectrum in the 700MHz, 800MHz, 900MHz, 1800MHz, 2100MHz, 2300MHz, 2500MHz and 3300MHz-3600MHz bands be put up for sale. Whilst spectrum in the lower bands saw substantial price reductions, the TRAI's recommendations included an increase in the base price for 1800MHz-band airwaves, the regulator noting that it had used a combination of methods to determine the value of the frequencies. With the high reserve price for 700MHz spectrum having deterred bids from cellcos when the airwaves were first auctioned in 2016, the entirety of the 700MHz band is available, for a total of 1,540MHz (2×35MHz in each of 22 operating areas). In terms of cost, the watchdog has suggested a price of INR62.68 billion (USD917 million) per MHz of pan-India spectrum, representing a reduction of more than 45% from the reserve price of INR114.85 billion in 2016. Most circles saw a reduction of 30%-40% in the proposals, with the notable exceptions of Mumbai – which had the price per MHz reduced by just 5.9% – Gujarat, Karnataka, and Tamil Nadu, which saw price cuts of more than 70%. For the 3300MHz-3600MHz band, meanwhile, the TRAI has recommended a price of INR4.92 billion per MHz pan-India frequencies. The band should be sold in 20MHz TDD blocks, with a cap of 100MHz per bidder to avoid monopolization of the band there has been no upper limit on spectrum holdings within a particular band since March 2018. The regulator also suggested that no rollout obligations be imposed on the band but that the lock-in period before the frequencies become available for trading be extended to five years from two. This would prevent any misuse or hoarding of the spectrum, the TRAI noted. (August 2, 2018) telegeography.com

Italy

The Italian government is still interested in creating a single wholesale fibre broadband network operator which includes the infrastructure of Telecom Italia (TIM) and state-backed firm Open Fiber. Reuters quotes Industry Minister Luigi do Maio as saying that authorities in Rome are studying 'with interest' the advantages of spinning off TIM's fixed network business and combining it with that of Open Fiber. 'Our aim is to approach the issue with a view to guaranteeing national security,' Di Maio said. The government is joint owner of Open Fiber via state lending company Cassa Depositi e Prestiti (CDP), while CDP also has a stake of around 4% in TIM. The idea of combining the fixed assets of TIM and Open Fiber has been under consideration since the latter company was established by utility group Enel in 2016.
(July 30, 2018) telegeography.com

Japan

The Ministry of Internal Affairs and Communications (MIC) in Japan is preparing to embark on R&D work to explore a new telecoms standard that will eventually succeed 5G technology, RCRWireless News reports, citing unnamed sources within the ministry. It is understood that the MIC believes that domestic operators will be ready to commercialize a post-5G standard 'around 2025', with the sixth-generation of mobile technology expected to build on its forebears in terms of improving the speed and stability of communications in areas such as self-driving vehicles and remote medical treatments — which will become easier to use, according to the report. The online news portal notes that the ministry intends to submit a budget request of JPY1 billion (USD9 million) in fiscal 2019 to start work on R&D over a four-year period, as Japan sets itself up as a pioneer in developing a global post-5G standard. (August 29, 2018) telegeography.com

The Ministry of Internal Affairs and Communications (MIC) in Japan is considering moves to end the practice of mobile network operators (MNOs) bundling the cost of smartphones and force them to cut monthly wireless fees, Reuters reports a senior telecoms ministry source as saying. The country's MNOs – NTT DOCOMO, KDDI (au) and Softbank Mobile – typically provide phones without upfront charges as part of fixed-term contracts that can cost as much as JPY10,000 (USD90.51) a month. Customers effectively pay for handsets in instalments, but the government believes that the current set-up muddies the cost of handsets and actual access charges creating barriers for entry. The unnamed source told Reuters that the MIC wants the MNOs to charge separately for the phones themselves, which it notes could hit Apple's iPhone sales as consumers opt for cheaper devices. According to MM Research Institute, sales of iPhones currently account for a third of smartphone sales in Japan. However, last month the US-based manufacturer fell afoul of the authorities which argued it was in breach of local antitrust rules by forcing Japanese carriers to offer discounts on iPhones and charge higher monthly fees – a situation the regulator argues gave Apple an advantage over rivals such as Samsung Electronics. The government's long-term aim is that cutting monthly access charges for mobile services will help stimulate spending in other parts of the economy, as the Bank of Japan 'battles' to reflate the economy. 'Wireless costs are suppressing other spending,' the unnamed ministry source is quoted as saying, noting that telecoms costs (as a percentage of household spending) continue to rise, reaching 4.2% in 2017, driven by factors such as high wireless fees. In response, a spokeswoman for KDDI said the wireless carrier has introduced new service plans that separate out the cost of the handset and has also lowered retail prices. DOCOMO, meanwhile, says it too has cut its fees and 'continues to consider changes to fees based on the wishes of customers', while Softbank claimed it 'continues to examine how to improve services for customers'. (August 22, 2018) telegeography.com

Moldova

The National Regulatory Agency for Electronic Communications & IT (Agentia Nationala pentru Reglementare in Comunicatii Electronice si Tehnologia Informatiei, ANRCETI) has invited expressions of interest in the potential allocation of wireless frequency blocks across several TDD and FDD spectrum bands. To complete the country's Radio Spectrum Management Program (2013-2020), the regulator is aiming to auction spectrum in the near-term – dependent on demand – under licenses which will be valid until November 2029. Respondents must submit expressions of interest and comments for each proposed frequency band allocation by 10 September 2018. ANRCETI will then decide on the timing, terms and format of the auction(s). The list of potential spectrum blocks up for grabs includes:

- 2×5MHz in the 900MHz band;
- 2×14.8MHz plus 1×5MHz in the 2100MHz band;
- 1×15MHz in the 2GHz range;
- 2×30MHz plus 1×40MHz in the 2600MHz range;
- 1×200MHz in the 3.4GHz-3.6GHz range; and
- 1×200MHz in the 3.6GHz-3.8GHz range.

(August 22, 2018) telegeography.com

Mozambique

The National Communications Institute (Instituto Nacional de Comunicacoes de Mocambique, INCM) has opened applications for its auction of 4G wireless spectrum, which will take place on 25 October. The regulator is offering frequencies in the 800MHz, 1800MHz and 2600MHz bands. Interested bidders – which are expected to include the country's three incumbent cellcos Vodacom, mCel and Movitel – have 60 days to apply to take part in the sale. In the 800MHz range, five lots of 2×5MHz will be sold, with a reserve price of USD15 million per lot, while six blocks of 2×5MHz will be auctioned at 1800MHz, with a minimum bid of USD30 million per lot. At 2600MHz, meanwhile, nine packets of 2×5MHz spectrum are on offer, with each lot carrying a reserve price of USD15 million. If all frequencies are sold the auction will raise at least USD390 million. (August 29, 2018) telegeography.com

The National Communications Institute of Mozambique (Instituto Nacional de Comunicacoes de Mocambique, INCM) says an auction of 4G-capable spectrum in the 800MHz, 1800MHz and 2600MHz bands could happen within the next two to three months. Incumbent cellcos Vodacom, mCel and Movitel have so far only launched 2G and 3G services, although the country's first unified telecoms licence was awarded to Vodacom this week, allowing it to use its existing spectrum allocation to also add 4G technology. The regulator acknowledges, however, that additional frequencies will be required to support a reliable 4G service for all three operators. A report from Verdade cites INCM director general Americo Muchanga as saying: 'At this point the spectrum that operators have is not enough to implement an integrated 4G service.'

(July 27, 2018) telegeography.com

Netherland

There is still a chance for the Dutch 5G spectrum auction to take place this year, the Dutch Ministry of Economic Affairs and Climate (EZK) said. A number of steps are needed to make this happen. EZK says a year is necessary to complete the process. That year will begin as soon as the European Commission takes its final decision on the mobile merger of T-Mobile Netherlands and Tele2 Netherlands. (July 29, 2018) telegeography.com

The Netherlands' KPN has decided to shut down 3G mobile voice/data network services by January 2022, it announced on its website. Its statement highlighted that the introduction of nationwide 4G LTE services gave customers much faster and higher quality mobile internet, and the number of 3G users is decreasing. The operator added that in order to be able to offer more capacity and higher speeds in the future, it has already refarmed some former 3G 2100MHz bandwidth for LTE, whilst 'over 95%' of KPN customers now have a smartphone that is capable of supporting 4G, a percentage it expects to increase even further in the coming years. It added that from January 2022 onwards, users without a VoLTE-compatible phone will have voice calls routed via the KPN 2G network. (July 27, 2018) telegeography.com

Norway

The National Communications Authority (Nasjonal kommunikasjonsmyndighet, Nkom) has begun the process of analyzing the status of competition in the mobile market with a view to making an updated ruling with regards to significant market power (SMP). In the wholesale sector for Market 15 (access and call origination on mobile networks), the Nkom confirmed back in September 2015 that it would continue to impose specific obligations on Telenor Norge, having determined that the operator had SMP in that sector. Now, with a view to making an updated ruling next year, the watchdog has begun the process of examining the market in question by sending the nation's cellcos a comprehensive questionnaire in which it seeks views on existing regulation and future regulatory needs. In addition, the Nkom has also invited other interested parties, such as consumer interest bodies, to submit their views on the matter. According to the Nkom, once it has reviewed all returned questionnaires and submissions, and following an updated market analysis, it expects to release its findings for a national consultation, with a hearing and notification of its draft decision scheduled for spring 2019.

(August 28, 2018) telegeography.com

Peru

Peruvian officials released draft regulations covering spectrum refarming, a move ultimately intended to boost penetration and use of telecom services in the country while also increasing competition. The country's Ministry of Transport and Communications (MTC) said reorganizing frequencies is a necessary step to improve the efficiency of current spectrum allocations. Refarming will help deliver improvements to the value of spectrum and, in doing so, benefit end-users: "It is the central axis of any real spectrum policy," the ministry said in a statement. Feedback is now being sought on the proposals from companies and citizens in a consultation running to end-August. Key elements include increasing the coverage requirements contained

in license terms if the refarming process results in a higher valuation of particular frequencies. These obligations would target areas "lacking in service or with little coverage" MTC said. The ministry added any reorganization would also aim to ease deployment of improved and up-to-date internet access technologies, in line with UN goals to establish such access as a basic human right. MTC said its draft regulation forms part of a "healthy transparency policy" and establishes "objective criteria and predictable methodology". The proposals encourage "the assignment or reordering of frequencies to encourage competition and the greatest social and economic benefit". Peru is home to four mobile operators: Viettel brand Bitel; America Movil's Claro; Entel; and Telefonica's Movistar. GSMA Intelligence estimated the country had a total of 39.5 million connections at end-Q2, with penetration standing at 71.5 per cent. (August 17, 2018) telegeography.com

Philippines

Two Philippines' Senators, Sherwin Gatchalian and Aquilino Pimentel III, reportedly have called on Congress to speed up the approval of legislation which it is claimed could ease the entry and competitiveness of the country's 'third telco'. Recognising the role that the sector plays in terms of generating income for the wider economy, Senator Gatchalian says Congress should fast-track the passage of three bills, namely: the Open Access in Data Transmission Act, which would give additional powers to the regulator, National Telecommunications Commission (NTC), with a view to speeding up the registration process for applicants in the data transmission segment; the Lifetime Cellphone Number Act, which would facilitate mobile number portability (MNP); and the proposed amendments to the Public Service Act to improve competition among telecoms operators.
(August 1, 2018) telegeography.com

Poland

Polish regulator UKE has issued a warning to mobile providers and the Polish Bank Association over Sim swap fraud, asking them to be more vigilant. Criminals obtaining access to phone numbers and bank details have been able to set up illegal call forwarding schemes and replicate mobile banking accounts to steal money. The regulator said telecommunications service providers need to take appropriate actions to stamp out the fraud and users also need to exercise caution. (August 21, 2018) telecompaper.com

Romania

The telecoms watchdog the National Authority for Management and Regulations (ANCOM) has issued a public consultation regarding the conditions and tariffs of fixed and mobile IP telephony call termination on public telephony networks. ANCOM deemed it necessary to intervene in the IP telephony field to ensure equal opportunities for all companies involved, due to smaller players facing resistance from established companies with regards to IP-based interconnection. ANCOM states that by March 1, 2019 the 36 fixed telephony providers and the five mobile telephony providers will have published on their websites information regarding their conditions of IP interconnection services. Also, by May 1, 2019 companies will be required to allow access to and use of specific network elements and to apply equivalent interconnection conditions to any companies that request IP interconnection access. Interested parties are to submit their views and comments to ANCOM by September 10, 2018. (August 22, 2018) telegeography.com

South Africa

The South African cabinet has approved an amended version of the Electronic Communications Amendment Bill, thus paving the way for the allocation of LTE-suitable spectrum and providing the framework for the licensing of a wholesale open access network (WOAN) operator. TechCentral writes that the bill will now be tabled in parliament for 'consideration and processing' and will be released to the public after consultation with the regulator ICASA. ICT minister Siyabonga Cwele also revealed that the cabinet has accepted a study conducted by the CSIR into how much spectrum should be reserved for the WOAN, with all excess capacity to be distributed among industry players: 'The outcome of this process is crucial for the transformation of the ICT sector to remove entry barriers, encourage investments by black-owned, small and large companies, [and] restructure the market to lower the cost of infrastructure investment thereby contributing to the reduction in the cost of communications.'
(August 28, 2018) telegeography.com

A redrafted version of South Africa's Electronic Communications Amendment Bill will be presented to cabinet by the end of September, according to Siya Qoza, the spokesman for ICT minister Siyabonga

Cwele. TechCentral cited the official as saying that the Department of Telecommunications and Postal Services (DTPS) has finalized various amendments to the controversial bill, following discussions with industry players earlier this year. It is still not known how much spectrum will be reserved for the government's planned wholesale open-access network (WOAN) or whether a 'hybrid model' — under which mobile operators will agree to support the WOAN in return for exclusive-use spectrum rights — will be adopted. The initially proposed framework (published in October 2016) stated that all wireless service providers in the country would be required to return their previously assigned spectrum, which in turn would be allocated to a newly-established WOAN. The government has drawn heavy criticism over the amendment bill, however, with Vodacom CEO Shameel Joosub saying that the bill was already scaring away investors: 'The industry lost close to ZAR80 billion [USD6.6 billion] in [the] last year in market cap … purely because there is a lot of uncertainty.'
(August 14, 2018) telegeography.com

Thailand

An auction of spectrum in the 1800MHz band conducted by Thailand's telecoms watchdog the National Broadcasting and Telecommunications Commission (NBTC) has ended with the only two operators to bid walking away with just a single block of new frequencies apiece. As previously reported by CommsUpdate, earlier this month it was confirmed that Advanced Info Service (AIS) and Total Access Communication (DTAC) had each handed over THB2.5 billion (USD75 million) to guarantee their bids for four slots in the 1800MHz band, the maximum number of slots each bidder would have been allowed to win in the auction. In total, the NBTC said it would make available a total of nine 10MHz blocks in the sale process, with each carrying a reserve price of THB12.48 billion. Now, however, it has been reported by The Bangkok Post that only two of the nine available spectrum blocks were sold in the auction, with both AIS and DTAC paying marginally over the reserve price to each secure one 10MHz block for a THB12.5 billion fee. As per the terms of the sale process, the two operators must now pay 50% of their winning bid within 90 days. It is understood that a further attempt to sell the 1800MHz spectrum that remained unsold is being planned for later this year, with the NBTC said to be considering amendments to the reserve price and a longer period for license payment with a view to boosting interest. To that end, NBTC secretary-general Takorn Tantasith was cited as saying: 'The NBTC will urgently conclude its package of revisions to the auction and submit them to its board for approval.' (August 20, 2018) telegeography.com

The Thai government plans to set restrictions on the upcoming 1800-MHz auction to ensure the highest bidder cannot intentionally create technical barriers for operators already using the 1800-MHz band. As part of the new terms, the winning bidder will be banned from selecting slots that would create technical issues for operators using adjacent slots, the Bangkok Post reported. But in a condition that may be aimed at ensuring greater interest in participating in this second attempt to hold the auction after the first was canceled due to lack of interest in June, the protection will only apply to operators applying to take part in the bidding. The telecoms ministry plans to auction a total of nine 10 MHz slots of 1800-MHz spectrum, capping the maximum allocation at four. The highest bidder will have their choice of frequencies, followed by the second and third highest. The report notes that this will also be the first auction where the department will allow the winner to negotiate slot reshuffles with other operators. The ministry has set a reserve price for the auction of 23.48 billion baht ($375.9 million). The auction is scheduled for August 19. So far AIS and DTAC have picked up bid documents.
(July 29, 2018) telecomasia.net

Uganda

The authorities in Uganda have asked MTN Group's Ugandan unit to list some of its shares on the Uganda Securities Exchange (USE) as a condition for the renewal of its operating license, which is due to expire in October. Reuters quotes the head of the Uganda Communications Commission (UCC), Godfrey Mutabazi, as saying that Ugandans should be able to own a stake in MTN Uganda, which has been operating in the country for 20 years. 'We are evaluating the conditions of [the license] renewal and that's one of the points we are discussing,' Mutabazi said referring to a possible USE listing. Further, when pressed on whether the condition was a requirement for extending MTN Uganda's license, he said, 'that's right' and added that the firm had 'not shown any resentment to that proposal'. MTN Uganda – the country's largest cellco with more than 10.7 million subscribers and revenues of USD356 million in 2017 – declined to comment.
(August 16, 2018) telegeography.com

United Kingdom

British telecom regulator Ofcom has launched a consultation on a new grant scheme designed to support Program Making & Special Events (PMSE) equipment owners that have to vacate the 700MHz band earlier than expected. Previously, in October 2016, the regulator published a spectrum management decision in which it said it would work towards accelerating a 700MHz clearance program by 18 months and releasing the spectrum for use for mobile services in May 2020, instead of September 2021. As a result, it served notice on PMSE users that they would no longer have access to spectrum in the aforementioned band from May 1, 2020. Now, the UK government has decided to fund a grant scheme to support those PMSE equipment owners that have to vacate the 700MHz band earlier than expected, with Ofcom having agreed to design and run the scheme to disburse the funds. The consultation document published by Ofcom sets out its conclusions on the eligibility criteria to be met by claimants and the principles underpinning the rate card. It also seeks the views of stakeholders on the approach to funding additional costs incurred by PMSE equipment owners through participating in the funding scheme. Submissions to the consultation are being accepted until October 4, 2018.

(August 24, 2018) telegeography.com

The telecoms regulator Ofcom has announced that it is closing investigations into mobile network operators (MNOs) Hutchison 3G UK (Three) and Vodafone UK to assess their compliance with the EU Open Internet Access Regulation 2015. In so doing, the regulator noted that it was taking no further action against either of the cellcos. Ofcom opened the investigations in March 2018, saying that with regards to Three it would examine the cellco's practices of: restricting tethering; imposing restrictions on the devices in which a SIM can be used; and traffic management practices such as 'throttling' or intentionally slowing down particular categories of traffic. Meanwhile, in relation to Vodafone the watchdog examined: traffic management practices relating to 'Vodafone Passes'; and the transparency of exceptions to zero rating within the Vodafone Passes products. In closing the Three investigation, Ofcom said it had done so after securing written assurances from the cellco that it had made changes to its tethering and traffic management practices to address concerns with its compliance with net neutrality and roaming rules. Based on the information gathered and the assurances received from Three, Ofcom said it was satisfied that there was no need for further action at this time. Meanwhile, it was confirmed that the Vodafone investigation had been halted after the operator provided written assurances that it had stopped restricting video quality in its Vodafone Passes. (August 3, 2018) telegeography.com

Telecoms regulator Ofcom has published statements on both its Wholesale Broadband Access (WBA) market review and its Wholesale Local Access (WLA) and WBA market reviews related to the Hull area. Among the main conclusions with regards to the nationwide WBA market review, Ofcom said it had determined that: it is now appropriate to now take services provided over fibre access networks into account in the geographic market analysis; and that the size of the geographic areas where consumers have limited choice of broadband provider has reduced to just 1% of UK premises, down from 10% as per its 2014 WBA review. Meanwhile, having analysed the conditions of competition, Ofcom found that former monopoly BT held a position of significant market power (SMP) in WBA services provided at a fixed location in Market A (the 1% of premises where there is limited competition), while it said no provider held a position of SMP in Market B (98% of premises). With the remaining 1% of premises being in the Hull area, Ofcom's review covering this area concluded that Kingston upon Hull-based KCOM, which for historical reasons has been the dominant operator in the area, continues to exercise SMP in both the WLA and WBA access market, and as such it confirmed it had imposed a package of remedies with a view to addressing this and promoting competition in retail and wholesale fixed telecoms services.

(August 2, 2018) telegeography.com

United States

FCC Chair Ajit Pai continued his net neutrality rule rollback defense on the Hill, this time in a Senate Commerce Committee FCC oversight hearing, where he confronted the Democratic critics of his net neutrality deregulation. It was the second such defense in as many months. He also defended the June rollback of regs against blocking, throttling and paid prioritization in a House FCC oversight hearing last month. Pai said the hysterical predictions, including from Hill Senate Democrats, that the rollback spelled doom for an open internet were just that. "We were told that it would be the destruction of the Internet, or as some outlets put it, 'the end of the Internet as we know it,' he told the committee. "And the official Twitter account for Senate Democrats made the following assertion (one word per line in the actual tweet): 'If we don't save net neutrality, you'll get the internet one word at a time.' This claim was baseless when it was made. The Washington Post's Fact Checker gave it three Pinocchio's and found that it 'conveys the false impression that a slowdown is imminent unless net neutrality rules are restored," adding that 'we can't help but feel that we've spilled a lot of pixels here analyzing something that simply hasn't happened.' The claim remains false today. "It

has now been 67 days since the repeal of the previous Administration's utility-style Internet regulations took effect. Far from ending or being delivered one word at a time, the Internet remains open and free." Ranking member Sen. Bill Nelson (D-Fla.) led the Democrat criticisms of Pai at the hearing, saying the FCC was not closing the digital divide--one of the outcomes Pai has said would result from the net neutrality reg rollback. Nelson said real solutions were needed for quality, affordable broadband, and it would take more than lip service and was certainly not advanced by repealing protections of a free and open internet. He pointed out the previous 2015 Open Internet order rules the Pai FCC rolled back had been upheld by the courts. He also pointed out that the Senate had repudiated the reg rollback through the Congressional Review Act, passed by the Senate, which would nullify the Pai FCC's Dec. 14 deregulatory vote. It has not passed the House and is unlikely to do so. Sen. Ed Markey (D-Mass.), who motormanned the CRA, suggested that ISPs had not started to block or throttle "yet" because they were essentially laying low while the new rule rollback was still being litigated. Commissioner Jessica Rosenworcel agreed that with the ability and incentive to create fast and slow lanes, it would happen. For his part, Sen. John Thune (R-S.D.), chair of the committee, hailed Pai for helping close that digital divide and process reforms, like publishing drafts of items teed up for a public vote, that he said contributed to openness and transparency. Like Pai, Thune was also no fan of the Tom Wheeler FCC's 2015 Open Internet Order rules, which were based in Title II common carrier regulatory authority, which was also rolled back by the Pai FCC. But Thune also said he was concerned about the FCC inspector general finding that the FCC, led by a chief information officer under the previous chairman, had misled the public and Congress about issues with the net neutrality comment docket that the FCC signaled were a DDoS attack, but were in fact due to a floor of comments prompted by comedian John Oliver. He called that a mistake the FCC needed to correct.

(August 16, 2018) broadcastingcable.com

Zambia

The government has said it expects to generate around USD22 million each year following the decision to implement a new tax on voice calls made using VoIP technology. According to The EastAfrican, last week the cabinet gave its approval to a ZMK0.30 (USD0.03) daily levy which will apply to VoIP calls. In the wake of the decision, communications minister Brian Mushimba was cited as saying that the government had moved forward only after considering concerns raised by operators with regards to the plans, while he noted that the state had ultimately come to 'a quick realization by government that there is a huge revenue loss that comes with internet calls'. The new levy will be charged through both national fixed line incumbent Zamtel and the nation's ISPs. The new tax has already met with criticism, however, with claims by some that it threatens to hinder free speech. In a joint statement, the Media Institute of Southern Africa (Misa) Zambia and the Bloggers of Zambia said of the tax: 'It is a major threat to freedom of expression, access to information, media rights, freedom of assembly online, and an affront to the enjoyment of digital rights.'

(August 20, 2018) telegeography.com

Zimbabwe

The Postal and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ) spent USD7.3 million of the country's Universal Service Fund (USF) in 2017, up from USD4.0 million the year before. The investment went towards projects such as the geographic expansion of mobile networks to more rural areas, the deployment of a microwave radio backhaul network, telemedicine, internet connectivity for schools, e-learning, and the building of Community Information Centers (CICs).

(August 28, 2018) telegeography.com

Four foreign firms are interested in buying a 45%-50% equity stake in Zimbabwean state-owned mobile operator NetOne, according to a report from the Zimbabwe Independent citing industry insiders. Potential bidders reportedly include 'an American-funded Lebanese consortium', 'a South African telecommunications giant', 'an Abu Dhabi-based firm' and a group of ex-pat Zimbabwean investors. The report added that the potential investors 'had showed willingness to clean up NetOne's balance sheet and inject fresh capital into the state-run entity'. NetOne, the smallest of three Zimbabwean mobile network operators (MNOs), has perennially registered losses despite being the first to launch cellular services in the country. South Africa's MTN has had several previous bids for NetOne rebuffed – and the latest report claims that MTN is not on the list of suitors this time around.

(August 14, 2018) telegeography.com

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