Volume 08, July, 2017

A SAMENA Telecommunications Council Newsletter

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SAMENA TRENDS

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BUILDING DIGITAL ECONOMIES

Exclusive Interview

Eng. Tarig Hamza Zain Alabdeen

Chief Executive Officer

Sudatel Telecom Group

ROLE OF DATA REGULATION IN BUSINESS SUSTAINABILITY ACROSS TELCO AND FINANCIAL SECTORS

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VOLUME 08, JULY, 2017

SAMENA TRENDS

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Role of Data Regulation in Business Sustainability across Telco and Financial Sectors

In today's global economy, consumers, regulators, and businesses all benefit from and create data flows — happening to fulfill a multitude of purposes such as reaching new customers in vast new markets, creating new digital offerings, enhancing enterprise efficiency, cost reduction, protecting digital users, and fostering economic activities— that are important to the growth of the global digital economy. This is happening as a result of the growth in digital platforms and services, many of which directly depend on the availability of digital infrastructure and regulatory environments in which that infrastructure is used.

The physical enablers of the digital society are telecom operators, and it is important that all regulatory frameworks, including those meant to regulate data, ensure an even and level playing field for all digital communication service providers as well as adjacent sector players, such as financial institutions.

Among various principles of the modern digital regulatory frameworks, including those for regulating data, technology neutrality stands out. It is a concept we all are striving to implement as it has been widely recognized as a key principle for Internet policies around the region. It is also important in terms of data protection regulations that regulatory authorities around the region are considering in cooperation with the private sector. This is so because regulations should not be drafted in technological silos and because, ultimately, our collective goal is to enable a digital society.

The physical enablers of the digital society are telecom operators, and it is important that all regulatory frameworks, including those meant to regulate data, ensure an even and level playing field for all digital communication service providers as well as adjacent sector players, such as financial institutions. In the presence of persisting national legacy regulatory frameworks that do not apply in an over-the-top environment, the uneven playing field runs the risk of being exacerbated in the 5G environment that will further the convergence of OTT players, network operators, and financial service providers. It is therefore essential that policies and regulations consider the increasing convergence between these key players in the digital services realm.

Both business transactions and always-on access to communication services are, in many ways, resulting in communication intensity, which, in turn, will give rise to further innovations within the industry as well as the society. This is causing more data flows and thus a need for how that data will be (or needs to be) regulated keeping, among other things, cyber-security requirements in check.

As governments prepare to implement rules relating to the flow and exchange of data, data protection reforms are taking a foremost consideration, and notions of consumer consent, right to privacy, right to be forgotten, for example, are receiving attention and support. The implications of the new data regulation rules are simple: operators, digital service providers, and the digital communications industry as a whole, needs to remodel certain workflows, business models, and procedures to cater to the new changes of the developing digital society, which every single stakeholder is busy enabling.

In the new data regulation context, consumer protection against spam and other cyber threats is of much importance. Thus cyber-security has become a hot subject of discussion, and various regulators have communicated this to SAMENA Council for the purpose of taking the discussion forward. Security of networks, information systems, and consumers of digital services is essential for keeping the SAMENA region's developing online economy running smoothly and efficiently, as the region treads the challenging path to digital transformation.

Bocar A. BA
Chief Executive Officer
SAMENA Telecommunications Council

Ultimately, investments need to be made sustainable along with fulfilling privacy and data protection goals in both digital communication and financial sectors. Through improved stakeholder consultative and collaborative efforts, only the most practical data regulation schemes could be devised, ensuring benefit for all.

Eng. Tarig Hamza Zain Alabdeen
Chief Executive Officer
Sudatel Telecom Group (STG)

Q. What is Sudatel's strategy to maximally capture the value of digital and to enrich the digital customer's overall communication experience?

A. Our mission is to better people's lives through digital innovation. In order to achieve that, we have to keep in mind the nature, needs and readiness of our markets. We work to achieve the digital evolution by focusing on providing relevant and simple answers to fulfil our communities' needs through leveraging on digital transformation and adapting to the changing trends in the telecom industry. In the market we operate, we confidently bet on the value that digital services can provide to enable our communities, yet we do understand the journey it takes to prepare our markets for such evolution. So our strategy is to move forward in the digital innovation while we design our propositions to be relevant to our communities.

...we confidently bet on the value that digital services can provide to enable our communities, yet we do understand the journey...

Q. In view of digital transformation trends around the region, how do you view the correlation between Sudan's overall national economic policy and the national ICT vision?

A. The impact of telecommunications on economic growth referencing the report by Deloitte and the GSMA stated that: an increase of 10 subscribers per 100 people, a 10% switch to 3G and a doubling of mobile data use could therefore raise GDP growth by as much as 1.85 percentage points, which is very high. A boost to GDP growth of even half that (0.925 percentage points) would in the medium term make a very substantial difference to the size of the economy.
This is justified by the direct and indirect role that telecom play in the GDP growth. In Sudan the combined current GDP impact of the telecommunications sector comprises a direct value-added contribution of 1.73% as well as an indirect contribution through the other economic sectors of 3.53% to give a combined direct and indirect impact of 5.26% of GDP.

Having that said, there is no way for the national economic policy to be effective but to adopt ICT as major enabling pillar. It is more of causation relation between economic growth and ICT not just a correlation between the economic policy and the ICT vision as separate streams. Thus, the national ICT vision must consider the economic growth as a major objective or success criteria and properly-estimate the ICT role to achieve the nation prosperity.

Q. In your view, what new future-minded possibilities could be created through improved operator-regulator co-operation?

A. The current engagement of the regulator with operators and consumers tends to be reactive, based on market pressures or political directives. The industry needs to see the regulator working more closely and transparently with all parties on issues that can pre-empt problems, rather than only dealing with them once they arise. We believe that operators -being closer to the customers- are in better place to follow up on relevant trends as we understand the markets needs and the pain points.

Improved cooperation could reshape the industry purpose and drive the ICT national strategy to maximize its role in boosting economic growth and effective social impact. We believe that true sustainable development is attained through effective Public Private Partnerships that maximize the business role in community's development and work on long term strategic projects that enables the digital economy and lay the ground for the digital eco system.

Policies and regulations should prioritise based on evidence and be set to determine how to balance various competing targets.

Q. How do you view the link between the creation and adoption of digital services and the availability of resources such as spectrum, new incentives, and reduced industry fees and taxation?

A. Policies, regulations and taxation system must adapt to accommodate the new era of digital economy. For sure over regulation and taxation effect the adoption and penetration of services where Sudan relies in the top 10 countries worldwide of highest tax as a proportion of the total cost of mobile ownership –TCMO-.

Policies and regulations should prioritise based on evidence and be set to determine how to balance various competing targets. In the telecommunications industry in particular, some of the competing areas might be: narrowband versus broadband services; wide versus focussed coverage; high quality versus wide availability; basic versus advanced applications; maximising usage versus maximising profit; market forces versus regulatory control; prestige versus pragmatism and government short term revenue versus national long term development.

Q. What enablement process do telecom operators require to be able to capitalize on the opportunities offered by IoT?

A. We require new up-to-date cross-industry regulations that have to keep pace with the emergence of new non-telecom services served through telecom means such as mobile-money which is finance-telecom shared service and Uber-like services which is transportation, telecom and work shared service.

The industry evolution needs lighter process that balance between regulation control which should mainly aim to enhance competition while protecting the investments, consumers' rights and national security, and the required agility in ease-of-doing-business to respond to market forces and needs.

The high customs duties of importing telecom –including IOT- terminals and systems hinders the adoption of such services. We believe that new digital economy solutions could have a greater social impact if supported by the right policies and fair taxation and customs.

We believe that new digital economy solutions could have a greater social impact if supported by the right policies and fair taxation and customs.

Q. In which segments, in particular, is Sudan's digital transformation market likely to grow fast, and what direct role are you playing in this regard?

A. If you asked me this question few years back my perceived answer would be "youth" Segment. However, since we lately work to adopt a more relevant Psychographic Segmentation approach based on the telecom needs & Socio-Demographic Profiling, my answer is "The Aspirational Segment" those are the self-employed, entrepreneurs and skilled labor.

We believe that in this segment in particular, digital transformation will have a drastic impact on bettering their lives by enabling them and we expect this market to grow faster than any other.

Our direct basic role can be summarized in providing 3 main elements: Reachability to help make them found, Access to information to help raise their awareness about their potential and expand their capacity and finally provide the secured payment means to help them monetize their efforts in a convenient secure way.

We also play extended role to support incubators and entrepreneurship communities. Initiatives such sponsoring Mashrouy Competition in collaboration with the British council and Startups Weekends are just examples. We aim to extend our role further to establish our own incubator and CVC fund to provide win-win sustainable impact to entrepreneurs.

Q. How is the presence of cloud computing, big data analytics, and enterprise mobility affecting your business and customer-experience strategy?

A. Actually, our five-principle strategy relies on these advancement in data processing and storage capability in every pillar. Those are the basis to increased efficiency on the organizational agility side, enhanced customer management on customer experience side and optimized data processing and storage on the technical side. It also supports new product development on the Business Growth side. And provide mobility and flexibility to employees on the people and culture side.

In addition, we have recently launched initiatives that leverage the use of big data capability for humanitarian purposes aligned with the GSMA's "Big Data for Social Good" initiative. Examples include connecting IDPs initiative and recent engagement with UN agencies for research purposes.

Q. What trends in digital adoption do you continue to lead in the market?

A. We adopted our mission to better people's lives through ICT with strong belief on the impact ICT has on Sustainable development. We were truly thrilled with the recent directions towards committing to the SDGs and focus on social impact trends such as mobile for development and mobile responsibility. It is like seeing our mission being adopted by the overall industry. We engaged with the GSMA and humanitarian agencies with enthusiasm and we recently became signatory to the humanitarian connectivity charter.

...we have recently launched an initiative that leverages the use of big data capability for humanitarian purposes aligned with the GSMA's "Big Data for Social Good" initiative...

We strongly believe that doing good to communities is actually good business and that nations prosperity can be attained through effective PPP leveraging on the maximum value that digital transformation can provide.

MEMBERS NEWS

STC Announces Record Peak Cell Downlinks in 4G

The Saudi Telecom Company (STC) has announced the successful experiment of Massive MIMO (multiple-input and multiple-output) technology on its existing 4G-LTE network, utilizing 2.3GHz spectrum band. In its ambitious experiment in Dammam, STC used 20MHz of spectrum in the 2.3GHz band on the time division duplex (TDD) network. It managed to achieve a peak cell downlink throughput of 677Mbps, which is approximately six times the current/traditional TDD network speed. Massive MIMO is accepted as one of the core innovative technologies in the future 5G network. STC and Huawei have used this concept to boost the existing 4G-LTE network throughputs in order to provide superior customer experience and unprecedented network speeds. Massive MIMO technology uses a large number of antennas and beam forming to enhance spectrum utilization among multiple user equipment (UEs) to improve the end-user experience. Nasser Al-Nasser, senior vice president, STC technology and operations, said: "Once again, STC's partnership with Huawei has delivered new and unprecedented results." He added: "This great result will enable STC to meet the explosive growth in demand for high-quality data services." Al-Nasser said: "We look forward to strengthening our pioneering position in the region through the successful deployment of the Massive MIMO technology." He added: "As a technology pioneering company in the region, STC is proud to see such successful network developments, which will ultimately translate to improved customer experience and delivery of highest possible quality of service."

STC to Collaborate on the Digital Future with Nokia

Saudi Telecom Company (STC) and Nokia have signed a memorandum of understanding to collaborate on the development of 5G and IoT use cases. The two companies will carry out trials of technologies such as 4.5G Pro and 4.9G. The collaboration will also play an important part in STC's digitalization transformation and its support of Saudi Arabia's 2030 Vision for transforming the country to be the hub connecting three continents including Asia, Africa and Europe. With its ultra-low latency and extreme broadband network capacity, 5G will enable new possibilities in a number of vertical industry sectors, including connected cars, industrial networking, remote healthcare, virtual reality and ultra-high definition video services. With Nokia's mobile broadband expertise in 4.5G Pro and 4.9G, STC will be able to kick start the evolution of its existing network toward 5G, preparing its infrastructure for the massive increase in data, devices and applications that 5G and IoT will facilitate. "Our mission is to enrich our society by introducing pioneering services to the people in the Kingdom, and we are proud to enter into this MoU with our long-term partner Nokia to achieve this mission," said Nasser Al-Nasser, senior vice-president of technology and operations at STC. "We aim to bring the first commercial 5G network to the gulf region, and we are confident that Nokia's innovations toward the development of 5G technologies and IoT use cases, and their trials around the world, will provide a clear path for this." Under the agreement, STC will also trial Nokia's small cells and enhanced Centralized RAN to prepare for 5G ultra-dense deployments and IoT use cases. The two companies will cooperate on network modernization for 5G and the evolution to Cloud, leveraging Nokia 5G-ready AirScale radio, Nokia AirFrame data center platform, Centralized RAN, cloud RAN, massive MIMO and network slicing, Nokia Multi-layer Optimization SON. Nokia will closely cooperate with STC by regularly sharing latest released concepts, news on product launches, while STC will share its views on industry trends. STC to allow Nokia to showcase its latest innovations in the STC network to Nokia's existing and potential customers from other regions.

Saudi Telecom Company Collaborates with Oberthur Technologies and Huawei to Pioneer Solutions Around eSIM Technologies

Saudi Telecom Company (STC), a leading global telecom operator, Oberthur Technologies (OT), a leading global provider of embedded security software products and services, and Huawei, a leading global ICT solutions provider, have teamed up to be a pioneer in the introduction of remote subscription management solutions and develop new opportunities around eSIM technology. In this regard, STC is proud to announce that eSIM trial has been conducted successfully using GSMA compliant subscription management platform from OT and Huawei smartwatch. The eSIM technology allows users to order, install, and activate profiles over the air in a seamless, secure, and convenient way. It also brings additional advantage for smartwatch users as it enable them to make calls directly from the smartwatch even if the mobile phone is offline. OT's solution is compliant with the GSMA roadmap and has exceptional pioneering tier 1 references in Europe and across the globe. OT offers end-to-end solution to securely and remotely change and manage subscriptions, with minimum impact on MNOs systems and infrastructures. Nasser Al-Nasser, Senior Vice President, Technology and Operations, STC, said: "We are delighted about our collaboration with OT and Huawei to pave the way for the new wave of connected M2M and Consumers' devices. We think that OT's subscription management solutions and Huawei smartwatches will accelerate the introduction of eSIM technology and open new business opportunities". Pierre Barrial, Managing Director of the Mobile Network Operators business at OT, said: "OT is thrilled to have been selected by the largest ICT services provider in the MENA Region, and to continue its collaboration with Huawei. OT's role is to offer the most efficient and most secure technologies possible, capable of responding to the needs of OEMs, MNOs and consumers. OT is proud to demonstrate the 1st subscription management reference in the MENA Region together with STC and Huawei".

STC and Nokia Sign MoU to Collaborate on 5G and IoT Development

Saudi Telecom Company (STC) and Nokia have signed a Memorandum of Understanding to collaborate on the development of 5G and IoT use cases. Under the terms of the MoU, Nokia and STC will carry out trials of technologies such as 4.5G Pro and 4.9G, key steps on the path to 5G to build the capacity and throughput speeds needed for new applications. The collaboration will also play an important role in STC's digitalization transformation and its support of Saudi Arabia's 2030 Vision for transforming the country to be the hub connecting three continents including Asia, Africa and Europe. The MoU was signed at Mobile World Congress by Nasser Al-Nasser, Senior Vice-President of Technology and Operations at STC, and Samih Elhage, President of Mobile Networks, Nokia. With its ultra-low latency and extreme broadband network capacity, 5G will enable new possibilities in a number of vertical industry sectors, including connected cars, industrial networking, remote healthcare, virtual reality and ultra-high definition video services. With Nokia's mobile broadband expertise in 4.5G Pro and 4.9G, STC will be able to commence the evolution of its existing network toward 5G, preparing its infrastructure for the massive increase in data, devices and applications that 5G and IoT will facilitate. Nasser Al-Nasser of STC, said: "Our mission is to enrich our society by introducing pioneering services to the people in the Kingdom, and we are proud to enter into this MoU with our long-term partner Nokia to achieve this mission. We aim to bring the first commercial 5G network to the gulf region, and we are confident that Nokia's innovations toward the development of 5G technologies and IoT use cases, and their trials around the world, will provide a clear path for this." Waseem Al-Marzogi, head of the STC customer business team at Nokia, said: "We are pleased to collaborate with STC, a highly innovative services provider, to develop next-generation broadband services as well as IoT applications for smart cities in the Kingdom. 5G and IoT are the main pillars of STC's 2020 Vision, and Nokia is committed to enabling extreme broadband services, critical machine-type communications and IoT services, creating a super-efficient infrastructure for STC."

STC Becomes the Most Valuable Brand of Middle East

Saudi Telecom Company (STC) tops the list of 50 most valuable brands in the Middle East for the first time this year in the ranking created by Brand Finance, a leading valuation and strategy consultancy. STC's brand value grew 11 per cent in value this year to $6.2 billion, the ranking shows. Emirates Airline, which has been the most valuable brand in the Middle East ever since the ranking was initiated in 2010, is second on the list with a value of $6.08 billion, down 21 per cent, said a report. A brand's strength is assessed (based on factors such as marketing investment, familiarity, preference, sustainability and margins) to determine what proportion of a business's revenue is contributed by the brand. This proportion is projected into perpetuity and discounted to determine the brand's value. Brand Finance Middle East managing director Andrew Campbell said: "The Riyadh-based giant demonstrates a departure from its once traditional approach; it is embarking down a path of 'humanisation', re-engaging its many stakeholders with a fresh, personable outlook. A clear indication of its success is the 5-point increase in its brand strength index score, proving that putting some heart into it pays off." Others on the top 10 are: Etisalat (UAE - $5.51bn); QNB (Qatar - $3.82bn); Emirates NBD (UAE - $3.4bn); Ooredoo (Qatar - $3.1bn); Almarai (Saudi Arabia - $2.59bn); National Bank of Abu Dhabi (UAE - $2.49bn); Zain (Kuwait- $2.33bn) and ADCB (UAE- $2.18bn). It is useful to look not just at the values of a specific brand but also the combined values of all brands owned by a corporate organisation. On a portfolio basis, Etisalat comes out on top in the Middle East, $1.5 billion ahead of STC. Its stable of brands includes not just its flagship, but also Mobily, Maroc Telecom, PTCL, Ufone and Moov, the report said. Qatar National Bank, the Middle East's most valuable bank brand is up 56 per cent to $3.8 billion. QNB completed the acquisition of Turkey's Finansbank this year and continues to strengthen its position not just in the Middle East but in Africa and Asia Pacific too. Qatar Airways has been hit by the same trend as Emirates, its brand value falling 38 per cent to $2.16 billion, meaning it has lost its position as Qatar's most valuable brand to QNB, the report said. STC's leading position means Saudi Arabia can now lay claim to the region's most valuable brand after years of the UAE taking the title. Saudi Arabia has been less successful in other respects however. It continues to have the most brands in the table, 18 to UAE's 17. However this is down from 21 last year. It also continues to trail the UAE on total brand value, making up 32 per cent of the total value of the top 50; the UAE constitutes 44 per cent. Qatar continues to solidify its position as the Middle East's third most important brand building nation, further marginalizing Kuwait, which used to hold that status. Kuwait's four brands now account for 7 per cent of total brand value, less than half the total of Qatar's eight brands. Campbell continues: "Zain flies the flag for Kuwait. It has improved its regional rank from 10th to 9th and is the Middle East's second most powerful brand behind Emirates. However Kuwait needs more brands to follow Zain's example by investing in and managing brand value, if it to regain its podium position in the region." Oman has just one brand in the list, with Omantel managing to improve its rank from 47th to 45th despite modest 5 per cent brand value growth. 2017 sees a positive development for Jordan and Lebanon which have both re-entered the Brand Finance Middle East 50. Jordan's Arab Bank just edges out Lebanon's Bank Audi with a brand value of $382 million to $368 million.

Apple Awarded Test License for 5G Spectrum

Apple has been granted an experimental license by the FCC to test high-band frequencies in California, a first step towards preparing for 5G. Apple plans to test 28GHz and 39GHz millimeter wave (mmWave) signals in San Cupertino and Santa Clara, Light Reading reports. These are expected to be some of the first bands used for 5G. According to its license application, the company "seeks to assess cellular link performance in direct path and multipath environments between base station transmitters and receivers using this spectrum". Apple is using equipment from A.H. Systems, Analog Devices and Rhode & Schwartz in the tests.

Batelco's Telecom Partner for Youth City 2030

Batelco, in line with its commitment to support the youth of Bahrain, has announced its participation as the Telecom Partner for the 2017 Youth City 2030 event, which will be held at Bahrain International Exhibition Centre from 16 July to 24 August. As well as providing Wi-Fi connectivity throughout the duration of the Youth City event, Batelco will also sponsor prizes for winners in one of the event's programmes. The major youth event will take place under the patronage of His Highness Shaikh Nasser bin Hamad Al Khalifa, representative of His Majesty the King for Charity Works and Youth Affairs, Chairman of the Supreme Council for Youth and Sports and President of Bahrain Olympic Committee. Youth City 2030 is organized by the Ministry of Youth & Sports Affairs (MYS), under the guidance of His Excellency Mr. Hisham bin Mohammed Al-Jowder, Minister of Youth & Sports Affairs, in a strategic partnership with Tamkeen. The annual event focuses on key growth areas for Bahraini youths and aims to promote creative thinking among them and encourage the development of their skills in areas such as leadership, media, information technology, arts, languages, science and sports. Youth City 2030 is expected to attract over 2200 students who will participate in a range of workshops and programmes aimed at supporting the development of children and young adults. Batelco annually supports a wide range of educational and youth programmes as part of its Corporate Social Responsibility efforts. Batelco Bahrain CEO Eng. Muna Al Hashemi said that Batelco as part of its strong commitment to youth, was very pleased to once again participate in this year's Youth City summer event. "Providing development opportunities for young people to help enhance their skills across a wide range of topics is a very worthwhile initiative and very important for Bahrain's future leaders," she said.

Batelco 4G+ Advanced Network Continues to Grow With More Locations since Launch in 2016

Batelco, Bahrain's leading digital solutions provider continues to expand the coverage of its 4G+ network nationwide, with the number of locations covered by Batelco more than doubling in the past year. Batelco first announced the new era for mobile phone services in May 2016 with the beginning of the rollout of superfast 4G+ for its customers, making it the first telecom in the Kingdom of Bahrain to deliver the superfast data speeds. Batelco Bahrain CEO Eng. Muna Al Hashemi said that the growth of the 4G+ service is meeting the ever-growing demand from customers for superfast mobile data that is also reliable and widely available. "We are very pleased with the success of the rollout with the number of locations covered growing continuously. The technology equates to better coverage, greater stability and faster performance. Our 4G+ service provides the ultimate mobile experience with amazing download speeds that is significantly boosting customer experience." Batelco CMO Mike Stanford added that Batelco's 4G+ is the perfect solution to satisfy the requirements of customers using bandwidth-intensive applications noting that it transforms their digital lifestyles tremendously. "The 4G+ network also serves to enhance Bahrain's global position in terms of providing advanced telecommunications services for consumers and businesses. Our provisioning is the result of our ongoing commitment and investment in the Kingdom's infrastructure." Batelco is already investing in the next steps to further evolve and enhance its networks. In collaboration with its partner Ericsson, Batelco recently conducted the first-ever 5G trial in Bahrain at Batelco's Headquarters. Eng. Al Hashemi continued by saying that Batelco will continue to work tirelessly to build on its strong foundations to evolve its networks and improve the communication experience for its customers.

Batelco and AFS Sign Partnership Agreement for Mobile Wallet Solution to Enable Cashless Payments in Bahrain

Batelco, Bahrain's leading digital solutions provider and AFS, the region's leading payment services provider have signed an MOU to roll-out a state-of-the art mobile wallet solution in Bahrain. AFS Chairman Sael Al Waary and Batelco Bahrain CEO Eng. Muna Al Hashemi, signed on behalf of the two firms at Batelco headquarters in Hamala. The innovative solution will add convenience to accelerate Bahrain's journey towards a cashless digital society with added security for both consumers and merchants. A full range of integrated features will be available on the mobile wallet such as, person-to-person money transfers and loyalty points in a secure and convenient manner for both consumers and merchants and many other services. The mobile wallet will utilize the latest Quick Response (QR) technology and will have near field communication (NFC) capability, allowing customers to tap and pay at participating outlets. The full solution will be rolled out in phases over the next several months. Following the signing, Eng. Al Hashemi said, "We are very excited to partner with AFS to launch the mobile wallet solution in Bahrain. This will enhance the lifestyles of customers by providing a convenient cashless, secure and agile payment method." Mr. Al Waary said that AFS is proud to partner with Batelco to launch the mobile wallet demonstrating Bahrain's leading position in the mobile payment solutions in the GCC. "This is a complement to AFS's suite of digital products and reach as a FinTech enabler in the region. This demonstrates Bahrain's lead in the mobile payment solutions in the region. It is another step to promoting cashless payments and financial inclusion putting Bahrain at the forefront of the FinTech revolution." The signing ceremony was attended by Batelco Chief Marketing Officer Mike Stanford, Batelco Senior Manager Mobile Services Husain Al Aswad, AFS CEO B. Chandrasekar, AFS Group Head of Strategy and Fintech, Martin Roeske and AFS Director of Frictionless Payments Business, Shiraz Ali.

Bahrain Telecommunications Regulatory Authority Sets Rules for Mobile Service Applications

Batelco, the Kingdom's leading digital solutions provider would like to take the opportunity to inform its customers about new rules when applying for postpaid and prepaid mobile services, which come into effect on 12th July, 2017. The Bahrain Telecommunications Regulatory Authority (TRA) has introduced new regulations governing the registration of sim-card enabled devices for all of Bahrain's mobile operators including Batelco. The regulations state that all individuals as well as commercial and government organizations applying for new mobile services (whether postpaid and/or prepaid lines) must provide the relevant documentation as outlined by the TRA. As part of the new regulations, the authorized person/s applying for the service will be required to provide a valid ID and scan their finger print. Fingerprint scans will be verified by the IGA (Information and eGovernment Authority). Furthermore, the TRA has introduced a limit to the number of prepaid lines that can be registered under one ID (whether for individuals or commercial entities). Batelco is in the process of notifying all its commercial and government customers about the newly required registration details. Information is also available on batelco.com and additionally Batelco personnel can help to guide commercial and government customers through the process by calling 17881144while consumers may contact 196 for support. Batelco supports the efforts of the TRA and works closely with the authority to ensure the delivery of world-class communications services to residents of the Kingdom of Bahrain.

Mobily Adds booking.com as Neqaty Partner

Etihad Etisalat (Mobily) announced on adding the famous website in hotel booking around the world, "booking.com" to Neqaty partners. This strategic partnership is an added value to Neqaty program, whereas "Booking.com" is one of the most famous websites for hotel booking around the world since 1996 which allows hotel booking in more than 227 countries. This partnership will work as per the new feature of Neqaty program which allow subscribers to collect points at partners and customers will get one point in their Neqaty account for each 2 SAR spent while booking any hotel around the world. To facilitate the process on Mobily customers and Neqaty program members, a special website has been created for Neqaty by Booking.com to complete the process of collecting points easily by simply visiting the following link:http://mobily.im/Booking Mobily provides its customers through "Neqaty" program a collection of valuable and wide rewards that meets their expectations and needs. Neqaty rewards are divided into two main types, either rewards within Mobily services like additional balance, partial bill payment, voice calls, free SMS, and data utilization; whereas the second type is discounts at "Neqaty" partners which are spread all around the Kingdom and cover all types of commercial activities in order to satisfy Mobily's customers' needs inside and outside the Kingdom.

Orange Jordan Renews its Partnership with Jordan Aviation as its Exclusive Telecom Provider

Orange Jordan recently renewed its strategic and sustainable partnership with the Jordan Aviation Airline, as the exclusive provider of integrated telecom services, which include mobile, fixed and internet services and Fiber-to-the-home for business services. The agreement was signed by Orange Jordan's Chief Enterprise Officer of the Business Unit, Mr. Sami Smeirat and by Jordan Aviation's General Manager, Captain Mohammad Khashman. Commenting on the partnership, Mr. Sami Smeirat said, "We always pride ourselves on our continuous partnership with Jordan Aviation, as they are one of our prominent customers from the business sector. As Orange Jordan is considered to be the leading provider in offering telecommunications services and solutions to the enterprise sector, we are confident that we will continue to meet the needs of Jordan Aviation in this field. Inspired by our five-year corporate strategy "Essentials 2020", we at Orange Jordan are committed to continuously supporting our enterprise customers as they embark on a digital transformation process, as well as providing them with the latest and most advanced technologies to improve their daily work." Jordan Aviation's General Manager, Captain Mohammad Khashman said, "We are proud to renew our partnership with Orange Jordan and we are confident that the advanced telecommunication solutions provided by Orange Jordan fully meets our continuously growing needs, especially in this digital era which requires speed in performance." In line with its commitment to provide an unmatched customer experience, Orange Jordan is committed to its expanding base of business customers, which include governmental institutions, security services and armed forces, in addition to companies of different sizes: large, medium and small, through simplifying its expansive portfolio of services and solutions that is offered to this sector, as they are specifically designed to meet the diverse needs of the sector, including telecom, connectivity, cloud computing and enterprise resource planning services, as well as security and protection services.

Orange Jordan Renews its Agreement with Tkiyet Um Ali

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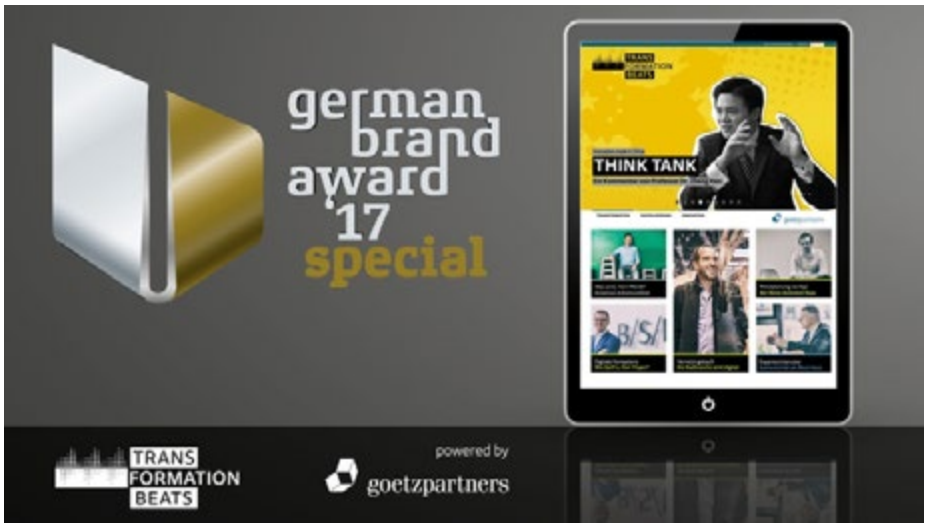
goetzpartners Online Magazine Transformation Beats Wins German Brand Award

Cisco has unveiled a new networking paradigm it is calling intent-based networking, with the aim of creating an intuitive system that anticipates actions, stops security threats in their tracks, and continues to evolve and learn. The new solutions are designed to help businesses to unlock new opportunities and solve previously unsolvable challenges in an era of increasing connectivity and distributed technology. They involve a shift from hardware-centric to software-driven networking to improve agility, productivity and performance. This new network is the result of years of research and development by Cisco to reinvent networking for an age where network engineers managing hundreds of devices today will be expected to manage 1 million by 2020. "The network has never been more critical to business success, but it's also never been under more pressure," Cisco CEO Chuck Robbins said. "By building a more intuitive network, we are creating an intelligent platform with unmatched security for today and for the future that propels businesses forward and creates new opportunities for people and organizations everywhere." Today companies are managing their networks through traditional IT processes that are not sustainable in this new age. Cisco's approach creates an intuitive system that constantly learns, adapts, automates and protects, to optimize network operations and defend against today's evolving threat landscape. With the vast majority of the world's internet traffic running on Cisco networks, the company has used its unique position to capture and analyze this immensely valuable data by providing IT with insights to spot anomalies and anticipate issues in real time, without compromising privacy. Already, 75 leading global enterprises and organizations are conducting early field trials with these next-generation networking solutions, including DB Systel GmbH, Jade University of Applied Sciences, NASA, Royal Caribbean Cruises Ltd., Scentsy, UZ Leuven and Wipro.



PCCW Global Lands New Asia Africa Europe-1 Cable SYSTEM in Hong Kong

PCCW Global, the international operating division of HKT, Hong Kong's premier telecommunications service provider, today announced the landing of the high-capacity Asia Africa Europe-1 (AAE-1) cable in Hong Kong. AAE-1 is the world's largest submarine cable in more than a decade and was built by a consortium of 19 leading international service providers including PCCW Global. Upon completion, the 25,000km-long AAE-1 will be the first high-capacity cable system to link all of the major Southeast Asian nations to Africa and Europe via the Middle East, providing robust, reliable, low-latency connectivity to some of the fastest growing and most active global trade routes. Deploying the latest 100Gbps technology with a design capacity of more than 40 terabits, the AAE-1 cable will have the capacity to deliver high resolution media content, including bandwidth intensive HD virtual reality streams. The landing of AAE-1 at the Cape D'Aguilar Cable Station and its imminent extension to PCCW Global's city data switching exchange center further establishes Hong Kong as a key telecommunications hub on the cable system. AAE-1 connects Hong Kong, Vietnam, Cambodia, Malaysia, Singapore, Thailand, Myanmar, India, Pakistan, Oman, UAE, Qatar, Yemen, Djibouti, Saudi Arabia, Egypt, Greece, Italy and France. By transiting through Thailand and avoiding the heavily congested Malacca Strait route, the AAE-1 cable also provides new diversity protection in the region, while at the same time offering significantly lower latency. Mr. Marc Halbfinger, PCCW Global's Chief Executive Officer, said, "As AAE-1 follows a route similar to the 'Silk

Road Economic Belt', it will thus further support China's 'One Belt One Road' initiative for all forms of high-speed data services and content applications." PCCW Global operates one of the world's most diverse, high quality global networks covering 3 000 cities and 150 countries, designed to serve the growing voice and data demands of both global service providers and multinational corporations. PCCW Global's advanced network underpins a portfolio of innovative network, voice, video and cloud computing solutions designed to connect and facilitate the communications needs of global business.

Viu Further Expands its Extensive Lineup of Premium Asian Content with Top-Quality Asian Movies on Big Screens and Mobile Platforms

Viu, a leading pan-regional OTT video service by PCCW Media Group, has added an unparalleled lineup of Asian movies through collaborations with tvN Movies and Now Baogu Movies on Demand. This is a welcome addition to Viu's existing impressive lineup of premium Asian content that includes the latest Korean, Bollywood, Japanese, Chinese, Malaysian, Indonesian, Thai dramas and variety shows and more in its various markets. Viu also has its own Viu Original series comprising Chinese content produced by ViuTV in Hong Kong as well as Korean, Indian and Indonesian productions. As the first regional OTT platform to collaborate with tvN Movies and Now Baogu Movies On Demand, Viu enables users* to enjoy Korean movies encompassing award-winning films, box office hits and all-time favourites across different genres from tvN Movies, and a wide selection of Asian movies from mainland China, Hong Kong, Taiwan and other places from Now Baogu Movies On Demand, a joint initiative among Now TV, Edko Films in Hong Kong and Chinese-language movie giant Huayi Brothers. In addition, Viu users* will also be able to enjoy the flexibility and convenience of streaming the movies from mobile to bigscreens in full HD as the Viu app now supports AirPlay** and Chromecast**. Ms. Janice Lee, Managing Director, PCCW Media Group, said, "As one of Asia's preeminent OTT service providers,

Viu continues to lead the pack. Coupled with our existing lineup of premium Asian dramas and variety shows, we now broaden our appeal further by adding a wide selection of Korean and Chinese movies from tvN Movies and Now Baogu Movies On Demand respectively. Viu users* can also stream the full HD quality movies from their mobile devices to TV, satisfying even the most discerning of movie buffs. This is part of Viu's commitment to continuously enhancing the viewing experience for our users, with new features and a richer selection of content." Blockbusters from South Korea that will be featured on Viu include some of the top five Korean movies in 2016 and 2017^, such as hit action movies 'Confidential Assignment', 'The Prison' and 'Fabricated City' which have grossed box office sales of nearly US$94 million in total in South Korea. Other top 2016 Korean movies to air on Viu include 'Train to Busan' and 'The Age of Shadows', both starring Gong Yoo, the leading actor of popular Korean drama 'Goblin', as well as 'A Violent Prosecutor', 'Tunnel' and 'Operation Chromite'. Among the award-winning Chinese-language movies available on Viu, 'Soul Mate', directed by Derek Tsang, stands out. It is about two women who have been close friends since adolescence and their struggles with the changes that maturity brings. The film swept awards across Asia at the 53rd Golden Horse Awards, 11th Asian Film Awards, Osaka Asian Festival ABC Awards 2017, 23rd Hong Kong Film Critics Society Awards and the 36th Hong Kong Film Awards. Another must-watch is 'Office', a 2015 Hong Kong-Chinese musical comedy produced and directed by Johnnie To and starring Chow Yun-fat, Sylvia Chang, Eason Chan and Tang Wei. It received accolades at the 52nd Golden Horse Award, 22nd Hong Kong Film Critics Society Awards and the 35th Hong Kong Film Awards. Mr. Samey Lee, Chief Executive Officer, CJ E&M HK, said, "CJ E&M HK strives to expand its service offerings in Southeast Asia through the launch of tvN Movies, the world's first and only Korean blockbuster movie channel. Viu is our partner of choice as it is the leading regional OTT service provider and the hub for quality Asian content. As the demand for OTT surges, our collaboration with Viu enables our audience to enjoy Korean blockbusters anywhere. We are confident that by joining forces with Viu, tvN Movies can further raise the awareness and quench audience's thirst for Korean movies in the region." Ms. Beatrix Sham, Assistant General Manager, Now Baogu Movies On Demand, said, "We are pleased to join the ranks of other A-list content providers on Viu and we look forward to seeing a growing fan base for our Chinese-language movies across Asian markets. With the Viu app now supporting AirPlay and Chromecast with excellent video quality, viewers can chill out and immerse in a cinematic experience at home or on-the-go.' tvN Movies and Now Baogu Movies on Demand will be progressively made available to Viu users* in Indonesia, Malaysia, the Philippines, Singapore and Thailand starting from the end of August 2017.

PCCW Global signs Memorandum of Intention with Nilesat for Global TV Network Solution between Egypt and the Rest of the World

PCCW Global, the international operating division of HKT, has signed a Memorandum of Intention with Nilesat, a leading satellite operator in the Middle East and North Africa (MENA) region, to deliver TV channels into and out of Egypt. As part of its collaboration with Nilesat, PCCW Global will be installing its unique Global TV Network (GTVN) solution in Nilesat facilities to ensure dynamic TV and media content are delivered cost-effectively and reliably, providing better end-user viewing experience. This new alliance will leverage the satellite and teleport services of Nilesat along with PCCW Global's renowned telecommunications and media expertise to ensure optimal GTVN delivery between Egypt and the rest of the world. This GTVN solution will also enhance Nilesat's connectivity with broadcasters across the globe, covering more than 90 countries via PCCW Global's extensive satellite network. PCCW Global is a leader in providing innovative and customized solutions to operators in the field of telecommunications and media. It has developed an extensive multi-faceted high performance global network to enhance the services of its diverse customer base. Mr. Sameh Sobhy, Vice President of MENA, PCCW Global, said, "We are excited by this initiative which will allow us to explore mutually beneficial business opportunities between ourselves and Nilesat. Nilesat has strong presence in video distribution leveraging many TV channels across the MENA region. And now, Nilesat will be able to expand its coverage into other parts of Africa and Middle East via PCCW Global's specialized TV network reach. PCCW Global will also be able to utilize the Nilesat satellite fleet to deliver Asian TV channels into the Middle East region." Mr. Hamdy Monir, Chief Technical Officer of Nilesat, said, "As we increase our collaboration with PCCW Global, we are excited by the opportunities created to deliver new international TV channels to the MENA region, as well as extending our own reach beyond region. Regional users will also benefit from the availability of a variety of accelerated and diversified media formats."

Nokia and Xiaomi Sign Business Cooperation and Patent Agreements

Xiaomi is one of the world's leading smartphone manufacturers and we are delighted to have reached an agreement with them," said Rajeev Suri, CEO & President of Nokia. "In addition to welcoming such a prominent global technology company to our family of patent licensees, we look forward to working together on a wide range of strategic projects." Under the business cooperation agreement, Nokia will provide network infrastructure equipment designed to deliver the high capacity, low power requirements expected by large web providers and datacenter operators. Nokia and Xiaomi will work together on optical transport solutions for datacenter interconnect, IP Routing based on Nokia's newly announced FP4 network processor, and a data center fabric solution. In addition, the companies have agreed to explore opportunities for further cooperation, in areas such as Internet of Things, augmented and virtual reality, and artificial intelligence. With presence in over 30 countries and regions, Xiaomi is well known for its smartphones packed with innovative technologies at disruptive prices. Beyond smartphones, Xiaomi is also a leading Internet of Things player. The Mi Ecosystem IoT platform has crossed 60 million connected devices, and there are now over 8 million daily active connected devices on the Mi Ecosystem platform. "As a company seeking to deliver more exciting technological innovations to the world, we are excited at the opportunity to work more closely with Nokia in future," said Lei Jun, chairman and CEO of Xiaomi. "Xiaomi is committed to building sustainable, long-term partnerships with global technology leaders. Our collaboration with Nokia will enable us to tap on its leadership in building large, high performance networks and formidable strength in software and services, as we seek to create even more remarkable products and services that deliver the best user experience to our Mi fans worldwide.

Nokia to Supply Shanghai Oriental Pearl Group with Advanced Wireless Networking Technology for Smart City Services

Nokia is to supply a LTE network in the 700 megahertz spectrum band to the Shanghai Oriental Pearl Group, a diversified broadcasting, media, manufacturing and real estate company. The deployment will transform Shanghai's fast-growing former industrial district of Hongkou through a range of new smart city services, for which Nokia will supply advanced wireless communications based on FDD-LTE technology for smart city and public safety applications. Nokia Shanghai Bell, Nokia's JV Company in China will provide the deployment and services. The LTE network is being deployed to provide broadband connectivity for city services, specifically high-speed wireless links to video from cameras used for traffic control, video monitoring and analysis, and additional services in future. The network is based on Nokia's FDD-LTE solution and offers the data capacity needed to support a variety of bandwidth-intensive video formats, including high-definition and ultra-high definition 4K, 3D and more. This deployment marks Nokia's first for LTE technology in the 700 MHz spectrum band in China. In addition to network infrastructure, Nokia Shanghai Bell's global services team will provide services including systems integration, network planning and implementation. The project builds on Nokia's strong track-record supporting smart city initiatives worldwide. It also highlights the progress of Nokia's strategy of expanding its customer activities outside of the traditional telecommunications sphere, a key focus of the company. Ding Yong, General Manager of Oriental Pearl Digital TV, said: "Nokia has been an excellent partner for these new smart city initiatives. Their LTE 700 MHz technology performed extremely well in testing and the strong local support from Nokia Shanghai Bell has been very beneficial as well. We look forward to our continued close cooperation to bring smart city services to the people of Shanghai. Jin Jian, head of Enterprise & Public Sector at Nokia Shanghai Bell, said: "This collaboration with Shanghai Oriental Pearl Group is an important first step in efforts to bring smarter services to China's largest city and critical business and innovation hub. As a leading provider of wireless connectivity solutions, Nokia is honored to play a key role in such an important project."

Nokia and WorldLink Build Nepal's First 100G Optical Network for Super-Fast Broadband Services for Consumers and Businesses

Nokia and WorldLink are upgrading 650-km-long backbone network with Nokia's 1830 PSS (Photonic Service Switch) DWDM (Dense Wavelength Division Multiplexing) technology to support bandwidth-hungry entertainment and enterprise services across the country. The intercity network stretches from Kathmandu to Bhairahawa and Birgunj, and provides international connectivity between Nepal and other countries including India. WorldLink, the largest fixed broadband operator in the Himalayan country, has 120,000 residential broadband subscribers and 5,000 enterprise broadband circuits. It is now connecting 10,000 residential Fiber-to-the-Home (FTTH) service subscribers every month, requiring the operator to meet ever-increasing demand for network capacity. Nokia's optical network technology will allow WorldLink to flexibly increase its network capacity, reach and density as the technology is powered by the industry's most programmable chipset, Nokia's Photonic Service Engine-2 with super coherent technology (PSE-2s). Samit Jana, CTO, WorldLink, said: "WorldLink has a commitment to Nepal to transform the communications landscape so that our people and enterprises thrive. This is our largest project to date and it will allow us to provide ultra-fast broadband services for our mobile and fixed network subscribers in cities as well as rural areas across the country." Sanjay Malik, head of India Market, at Nokia, said: "We are proud to be part of WorldLink's vision to transform Nepal's communications architecture by providing the first 100G transport network. Nokia's highly scalable optical platform will ensure low latency and high resiliency, and allow WorldLink to cost-effectively increase network capacity as needed."

Nokia to Supply Critical Communications Network to Northern California Water and Power Utility PCWA

Nokia is to provide an advanced communications network to the Placer County Water Agency (PCWA) in Northern California to support its hydro-electric power generation and water distribution services in the area. PCWA is the primary water resource agency for Placer County, California, a 1500-square mile area between the Sacramento Valley and the Sierra Nevada mountains. PCWA is responsible for water resource planning and management, retail and wholesale supply of irrigation water and drinking water to more than 200,000 customers, and operates five hydroelectric plants producing roughly one million megawatt hours annually. Under the agreement Nokia will replace PCWA's aging communications infrastructure with a modern Internet Protocol/Multi-protocol Label Switching (IP/MPLS) and packet microwave network that will support a range of critical utility applications, enabling them to more effectively utilize and manage their power generation, water resources and water supply. Managed by Nokia's Network Services Platform (NSP), the network features Nokia's 7705 Service Aggregation Router (SAR) portfolio and 9500 Microwave Packet Radio (MPR) which are tailored to support critical applications essential for utility operations, addressing their stringent requirements for security, reliability and resiliency. The high network flexibility allows PCWA to migrate existing SCADA system traffic and support new bandwidth-intensive video traffic on the same network without compromising performance. Nokia Company SAC Wireless will be responsible for the overall construction and deployment of the network, including managing civil works such as pre-construction site verification, network design and engineering, installation and testing of towers, repeaters, shelters, backup power systems and overall project management. This agreement, Nokia's first public customer agreement with a water utility, builds on the company's strong track-record providing mission-critical networks to power utilities, having served more than 200 such customers worldwide. It also highlights the progress of Nokia's strategy of expanding its customer base outside of the traditional telecommunications sphere, a key focus of the company. Kamal Ballout, head of the Global Energy Segment for Nokia, said: "Nokia has invested heavily in recent years on addressing the unique requirements of utilities for modernizing and converging their communications in order to enhance operational efficiency, reliability and safety. We are thrilled that PCWA has put their trust in Nokia to play such an important role in meeting the needs of their customers."

Accenture to Provide Digital Experience at Expo Dubai

Expo 2020 Dubai is teaming up with leading global professional services company Accenture to create a powerful and engaging digital experience for millions of visitors from around the world. The deal will cover information security and customer relations to virtual assistance and geolocation services. As the newly appointed Digital Services Premier Partner and Systems Integrator, Accenture will play a key role in making the first World Expo in the Middle East, Africa and South Asia (MEASA) region one of the fastest, smartest and best connected places on Earth. To achieve this, Accenture will work with Etisalat Digital, a business unit of the international telecoms and technology service provider Etisalat, Expo's Premier Telecommunications and Digital Services Partner. Accenture will design, build and run solutions in areas such as virtual assistance, business intelligence and analytics, mobile applications and technologies that support guest relations. It will also ensure the integration of more than 70 Expo applications and coordinate program management, architecture and testing across Expo's multiple technology partners, said a statement. Over the coming years, Accenture and Etisalat Digital will explore ways to enhance the Expo experience using digital services. Examples of these services could include ensuring visitors have a virtual assistant to guide them around the site or allowing them to order their lunch at a restaurant before they even arrive using smart technology. Accenture and Etisalat Digital could also help participants and partner companies evolve their offerings by analyzing who is visiting their pavilion, as well as training staff and volunteers to make sure they have all the necessary skills and knowledge to meet the needs of the millions who will visit the Expo. "We are delighted to welcome Accenture as our Digital Services Partner," said Reem Al Hashimy, UAE Minister of State for International Cooperation and Director General, Bureau Dubai Expo 2020. "Innovation and technology are at the heart of World Expos and Accenture is a world leader in technology and business innovation and digital transformation." With more than 180 countries expected to participate and up to 60,000 visitors every hour, Accenture's role will be critical

to ensuring that the Expo experience for every individual will be as exceptional as possible. Expo 2020 Dubai will run from October 20, 2020 to April 10, 2021. The partnership deal with Accenture was signed by Sheikh Ahmed bin Saeed Al Maktoum, chairman of the Expo 2020 Dubai Higher Committee, and Gerardo Canta, Accenture's Communications, Media & Technology lead for the Middle East, Africa, Russia and Turkey. Accenture's experience across more than 40 industries in over 120 countries, the power of the Accenture Innovation Architecture and the presence of the Accenture Digital Acceleration Center in Dubai, as well as previous involvement at Expo Milano 2015, where it was Global Systems Integration Partner, makes it an ideal partner for an event on the scale of Expo 2020 Dubai. Its expertise in integrating systems and creating innovative solutions also mean that it will have a vital role to play in delivering the overall theme of the Expo, 'Connecting Minds, Creating the Future.' "Accenture, Etisalat Digital and Expo 2020 Dubai share a goal of joining together businesses, systems and people around the world," said Gerardo Canta. "This new partnership represents our common commitment to this mission and aligns with Expo 2020 Dubai's theme. We recognize the unique opportunity that Expo 2020 Dubai presents and will use our experience, network and specialized digital skills to ensure the underlying systems infrastructure for this remarkable event is state of the art." Expo 2020 Dubai and Accenture have previously worked together. In November 2016, they organized the Accenture Digital Connected Hackathon. The event pitted young graduates and undergraduates from eight cities in Europe and Asia, including Dubai, against each other in a 24-hour challenge under the theme of 'Connect. Collaborate. Create.' Accenture also took part in GITEX Technology Week 2016 in Dubai, where it was the Exclusive Digital Transformation Partner. With its agreement with Expo 2020 Dubai, Accenture joins a number of other global brands – including DP World, Emirates Airlines, Etisalat, SAP and Siemens – who have become premier partners. More partnerships are expected to be announced in the coming months, it said.

Huawei Establishes New Customer Service Center in Jeddah

Given the high penetration rate of Huawei's smart devices throughout Saudi Arabia and in the framework of Huawei's commitment to provide the best maintenance services to its customers in the Kingdom, Huawei has launched its newest and the region's largest maintenance and customer service center in Jeddah. The center is equipped with the latest technology and maintenance services for Huawei's customers. The new center is run by

Saudi talents who received best training and skills from Huawei to use state-of-the-art maintenance technology and best serve the company's clients. Speaking on the launch, Mr. Pablo Ning, VP, Huawei Tech Investment Saudi Arabia, said: "Launching the new maintenance center in Jeddah comes as part of Huawei's plans to provide excellent and comprehensive maintenance services, besides accommodating to the highest number of customers and providing fast maintenance services in all regions across the Kingdom. The center will also play a vital role in communicating and interacting directly with Huawei customers and this will contribute in attaining Huawei's vision to achieve the highest levels of loyalty and customer satisfaction." "The newly launched maintenance center in Jeddah, features the world's latest technologies in the field of smart phone and device maintenance in addition to the accurate testing equipment, all run under the supervision of highly qualified Saudi engineers and technicians who specialize in smart device maintenance," Ning added. He also stressed on Huawei's unwavering commitment to the quality of service provided to its customers besides generating and securing job opportunities for Saudi youth, developing talents and young national cadres, and contributing to the implementation of localization programs in the Kingdom, thus expanding its support for developing the skills of Saudi youth and preparing them to enter the labor market which will contribute in increasing the number of Saudi Competencies working in the ICT Sector. The new center is located in the city of Jeddah on Palestine Street in the AlSanea Telecom Center, and in close proximity to operators' service centers and the main smart phone market in Jeddah.

Huawei Demonstrates 5G-Based Remote Driving with China Mobile and SAIC Motor

China Mobile, SAIC Motor, and Huawei Technologies jointly demoed the world's first 5G-based remote driving technology with a consumer car at the Mobile World Congress Shanghai 2017. Their demonstration verified the high-bandwidth, low-latency potential in C-band frequency, laying a foundation for future development of connected smart vehicles. This demo marks an important milestone in improving the reliability of autonomous and driverless vehicles, and also a major step forward in commercial application. Huawei provided the 5G wireless solution that connected SAIC Motor's smart concept car, the iGS. China Mobile provided the connectivity. Working closely together, the three companies successfully demonstrated the world's first remote driving field test for a real consumer vehicle on a 5G network. In the test, the driver was located over 30 kilometers away from the vehicle. Several high-definition video cameras installed in the vehicle sent multiple real-time HD video feeds to the driver, providing him with a 240-degree view of the vehicle's surroundings over a high-bandwidth 5G network. (Including peripheral vision, without turning their head, an average person has a binocular visual field of around 180-190 degrees). Control signals for the steering wheel, gas pedal, and brakes were also transmitted over the 5G network, which provided the ultra-low latency needed to support instant response to different roadside conditions. From his remote position, the driver was able to maintain full control over the vehicle at all times. The low latency and high bandwidth of 5G networks are essential to meeting the requirements of remote driving applications for HD video streaming, fast response, and reliable connections. In this particular test, 5G's ultra-high bandwidth provided the required speed for flawless HD video connections between the vehicle and the driver at all times. End-to-end latency for all vehicle control functions was less than 10 milliseconds (the latency for the 5G new air interface itself was less than one millisecond). This means that, when the vehicle was traveling at 30 km/h, the distance it traveled between braking and actual deceleration was only eight centimeters. In extreme conditions, immediate emergency braking is critical to ensuring safety. Remote driving has a broad range of potential applications in the future, especially in particularly harsh or dangerous environments like mining sites and waste disposal sites, or when remote work is more efficient, like compacting large swaths of soil with a remote-controlled steamroller. Remote driving can also be used to complement autonomous vehicles. For example, with remote driving, a single person can control an entire fleet of vehicles or manually intervene in situations that require human input, such as remote management of car-sharing resources, or in emergency situations, such as rescue missions in disaster zones. China Mobile, SAIC Motor, and Huawei are actively engaged in the research, development, and field-testing of solutions for real-life 5G autonomous driving applications, work that is essential to making next-generation transportation infrastructure a reality.

VIVA Bahrain to Implement Fingerprint Registration

VIVA Bahrain, a leading telecom operator in the kingdom, will start validating the identity of its customers in compliance with the Telecommunications Regulatory Authority's regulation. The regulation, entitled "Sim-Card Enabled Telecommunications Services Registration Regulation" was issued on December 27, 2015, a statement said. In compliance with the regulation, VIVA Bahrain will start, from July 12, capturing the identity of its new customers electronically by means of verifying their fingerprint during the registration process. New individual subscribers visiting VIVA outlets will have to carry their Bahraini CPR/GCC ID or passport to undergo the new registration process, while business customers will be approached by VIVA business sales representative to verify their fingerprint in accordance with the new regulation. VIVA CEO Engineer Ulaiyan Al Wetaid said: "We welcome the new industry guidelines. We are extending our full support to the TRA to ensure effective communication and implementation of the new registration process that will support the need for consumer and business protection." The new registration process is in compliance with TRA's regulation, which is mandatory for all telecom operators offering SIM-card enabled telecommunications services in Bahrain, the statement said.

Viva Bahrain Launches Nationwide LTE-A Network

Viva Bahrain has announced the commercial launch of LTE-Advanced (LTE-A) services, taking 'a significant step' towards creating a future Giga network in the Kingdom, Zawya writes. Viva Bahrain's new network – which offers download speeds of 225Mbps – is currently available nationwide, with all eligible subscribers with LTE-enabled devices able to access the upgraded speeds for free. Viva Bahrain's CEO Ulaiyan Al Wetaid said: 'With our continual investments in innovation and collaboration of technological services in Bahrain, we are now taking an enormous step towards the 5G era. As the frontrunner in the Kingdom's telecom sector, adoption to advanced LTE network is an integral part of our mobile network modernization, which enables us to meet the demands of the local population with access to mega speeds and high-quality customer experience. This sets a strong foundation for the deployment of our 5G services in the near future, while also uplifting Bahrain's capabilities to be an ICT powerhouse.'

Ooredoo Group's First-Half Revenue Climbs 2%

Qatar-based Ooredoo Group's consolidated revenue in January-June 2017 increased to QAR16.3 billion (USD4.4 billion), an improvement of 2% over H1 2016. In local currency terms, growth was driven by Ooredoo Qatar, Ooredoo Oman, Ooredoo Kuwait, Ooredoo Tunisia, Asiacell (Iraq), Indosat Ooredoo and Ooredoo Maldives, whilst excluding foreign exchange (forex) translation impact, six-month revenues increased by 3% year-on-year, the group added. Group EBITDA increased by 7% to almost QAR7.0 billion in the first six months of 2017 with an improved EBITDA margin of 43%, attributed to 'strong operational performance and good cost control'. Group net profit attributable to Ooredoo shareholders decreased by 25% to QAR1.0 billion, although it was noted that net profit in H1 2016 benefitted from significant forex gains of QAR540 million (temporary gains which were reversed in the second half of 2016). Excluding the forex impact, net profit in H1 2017 would have been up by 11%. Ooredoo added that continued strong data growth from consumer and enterprise customers drove data revenue to QAR7.2 billion in H1 2017, equivalent to 44% of group revenue, whilst B2B revenue increased to 17% (QAR2.8 billion) of total group turnover in the six-month period, reflecting ongoing investment in services for business customers.

Etisalat Announces Commercial Launch of NB-IoT and LTE-M Technology

Etisalat announced its commercial launch of NB-IoT and LTE-M technologies becoming the first operator in the MENA region to offer these new technologies enabling variety of solutions and services. Both NB-IoT (Narrowband Internet of Things) and LTE-M (Long Term Evolution for machines) technologies are 3GPP (3rd Generation Partnership Project) based standardized technologies using licensed spectrum for carrier-grade security and targeting low power wide area IoT requirement. These technologies also enable battery life of more than 10 years for a wide range of devices. The IoT device testing conducted with leading chipset and module manufacturers including Huawei, Qualcomm and Quectel, where end-to-end testing was performed with IoT devices connected to Etisalat IoT platform. Saeed Al Zarouni, Senior Vice President, Mobile Network, Etisalat said: "Today we are proud of achieving another milestone in digital transformation with the commercial deployment of NB-IoT and LTE-M technologies in our live network. Etisalat will continue to participate in the IoT ecosystem by fulfilling growing market demands, in particular our business and enterprise customers. In addition, we are focusing on investing and developing new technologies to work in line with the overall company objective to support the government in developing Smart Cities in the country." Etisalat is also deploying end-to-end IoT solutions and services for its customers in coordination with multi network vendors and IoT device suppliers targeting wide range of verticals and industries focused on Smart Cities. Etisalat currently runs a fully equipped state of the art data center that is capable of hosting all IoT applications and services to meet the growing market demand in the country. The IoT solutions are being implemented across industry verticals mainly health, transportation and education.

Etisalat Enhances International Connectivity to UAE with AAE-1 Submarine Cable System

Etisalat announced the Asia-Africa-Europe-1 (AAE-1) undersea cable, the largest global submarine cable system bringing additional international capacity to UAE connecting Europe and Far East. With this announcement, the submarine cable system is ready and will have the first commercial traffic loaded running into the system. Etisalat is an AAE-1 consortium member and has played a significant role in this submarine cable system with Etisalat's 'Smarthub' becoming a strategic terminal point in the UAE. AAE-1 (Asia-Africa-Europe-1) is a unique next generation cable system ever built, the first next generation cable system to link all major Asian, African, Middle Eastern and European nations via the lowest latency subsea route. The submarine cable system is launched in partnership with 18 other global carriers such as China Unicom (Myanmar), CIL-HyalRoute(Cambodia), Djibouti Telecom, GT5L-Global Transit (Malaysia and Singapore), VTC-Metfone (Cambodia) , Mobily (Saudi Arabia), Omantel, Ooredoo, Oteglobe (Greece), PCCW Global (Hong Kong), PTCL (Pakistan), Reliance Jio (India) , Retelit (Italy) Telecom Egypt, TeleYemen, TOT (Thailand) , Viettel (Vietnam) and VNPT (Vietnam) and Etisalat. AAE-1 will serve international carriers, CDNs (Content Delivery Networks) and Enterprise businesses from UAE and the region apart from meeting the ever growing demand of internet users. AAE-1 also helps Etisalat in expanding its geographical footprint and establishing PoPs (Point of Presence) in new markets by having a direct low latency connectivity to countries such as Hong Kong, Vietnam, Cambodia, Thailand and Myanmar. Ali Amiri, the Group Chief Carrier and Wholesale Officer, Etisalat said, "Etisalat is proud to bring AAE-1 into service increasing our international capacity from UAE to Asian and European regions. AAE-1's launch will not only provide additional protection and diversity to existing routes, but also enable more countries to be reached and other parties to access Etisalat's SmartHub products and services" AAE-1 cable system deploys 100Gbps transmission technology, with a minimum design capacity of 40 terabits. It is a next generation subsea cable that lands in Fujairah will act as a high speed gateway connecting UAE to Hong Kong and Singapore with multiple Onward-Connectivity options in Europe featuring unique landing points in Greece, Italy and France.

Etisalat Launches M2M In-Vehicle WiFi

If you are an Etisalat business customer, you can now enable WiFi connectivity on the move to all your fleets and vehicles. With the launch of the M2M in-vehicle WiFi solution, passengers and employees of those fleets and vehicles can enjoy high speed WiFi connectivity, a press release said. Consumers today require uninterrupted high speed WiFi connectivity at home, office and public areas. Public transportation companies priorities WiFi access to all passengers to enable them to be more productive while on the move. The proposition can also be used by students as they travel. Etisalat Digital's launch of M2M in-vehicle WiFi is to meet this growing demand among its business customers to enable high speed WiFi connectivity to all their passengers, the release said. The in-vehicle M2M solution makes use of an automotive grade WiFi gateway complying with the necessary protocols to make the service PIAP (Public Internet Access Provider) compliant set by UAE's Telecom Regulatory Authority. Through this, Etisalat Digital enables business customers to be a PIAP and offer a certified WiFi solution to their end-users. The new business solution also enables customers to have real time visibility of the WiFi data consumption. The in-vehicle solution is supported by Etisalat's M2M control center and nationwide M2M connectivity. Alberto Araque, Vice President/Internet of Things and Digital Payments, Etisalat Digital, said: "This launch will enhance our telematics offerings in UAE which is in line with the long term vision of the government to enable smart transportation across the country. The solution comes with a flexible business model that helps our Government, Enterprise and Small and medium business customers to easily offer the service to their customers and citizens."

Arabsat's DVB-S2 Free-to-Air Platform Open for Business

The channels will reach homes with a minimum receive dish size across the Middle East, North Africa and Europe via the Arabsat BADR-4 satellite at 26° East. "We are delighted to announce the launch of Arabsat brand new added-value DVB-S2 video offering to our clients and audience. This service is especially significant and valuable for our worldwide top brands of satellite TV channels, of which delivers cost-effective transmission platform, in parallel with developing the performance of our broadcasting product," said Khalid Balkheyour, president and CEO, Arabsat. "Arabsat viewers can enjoy the modern television broadcasting events, with our portfolio of first class exclusive channels, such as BBC World News HD, France 24 Arabic HD, TV5 Monde Style HD and other high definition exclusive channels showing excellent quality of picture and sound, to ensure the best free-to-air viewing experience at home."

Omantel Partners Huawei for G.fast Rollout

Chinese equipment supplier Huawei has announced that it will jointly deploy what it claims to be the first G.fast network in the Middle East with Oman Telecommunications Company (Omantel). The vendor says its end-to-end G.fast solution will enable the Sultanate's incumbent telecoms operator to accelerate the rollout of high speed broadband by constructing networks more efficiently. Under the deployment plan, Omantel will reuse existing copper lines in the basements of tall buildings, and will also roll out the high-performance G.fast home gateway, which will provide subscribers with an improved experience for voice, data, video and dual-band gigabit Wi-Fi services. Commenting on the agreement, Omantel's VP of Operations Said bin Abdullah Al Ajmi, stated: 'G.fast technology brings copper access into the gigabit era by delivering fiber-like speeds, which makes it possible for us to improve the experience for more customers using old copper lines and thus making the most of our existing copper network.' By 2020 Omantel plans to cover 90% of home subscribers in Muscat; in high-value areas it expects to provide speeds of between 200Mbps and 1Gbps.

du Set to Offer Skype, WhatsApp calls, with Partners

UAE operator Du has insisted it is open to offering voice over internet protocol (VoIP) services such as Skype and WhatsApp calling over its network, provided such services are offered in partnership with operators, The National reported citing a senior executive. Skype, which is available over fixed but not mobile internet connections in the UAE, abruptly stopped working completely a month ago in the UAE, with the service gradually coming back online a few days later. Fahad Al Hassawi, Du's Chief Commercial Officer, told The National that the operator had no objection to allowing VoIP calling services over its network, but that formal agreements had to be signed between the networks and providers first. Al Hassawi said they have an open invitation to any provider, be it WhatsApp, Skype or whoever, to come and partner with the operator, and can come up with the right offering that falls within the licensing requirements here in the UAE. The UAE's Telecommunications Regulatory Authority (TRA) said during June's Skype outage that its policy on VoIP services was unchanged and that such services could only be provided by licensed telecoms operators. Skype for its part said that its website and services had been blocked by both du and Etisalat. The outage came days after WhatsApp voice and video calling briefly became available in the UAE after previously having been restricted, only for the service to disappear a day later. There were no responds from WhatsApp and Skype.

Syniverse Plans to Improve LTE Roaming User Experience

Syniverse announced that it has signed an agreement with Cable & Wireless Seychelles to help the operator improve roaming experiences for inbound and outbound roaming customers. The agreement builds on a multiyear relationship and marks another step in Cable & Wireless Seychelles' ability to deliver the highest level of roaming experience and maximize revenues in a rapidly growing tourism market. "LTE is quickly moving from a preferred service to a must-have service, and it's increasingly a standard that our customers expect to have access to anytime, anywhere," said Jack Maher, Head of Roaming and Carrier Relations, Cable & Wireless Seychelles. "Following our launch of full LTE roaming service, our goal is now ensuring that our roamers have the best-possible LTE roaming quality of experience. Our work with Syniverse is an important step in this process that will enable us to provide better data on our roamers' usage and better management of their service." LTE roaming has become a critical mobile service in the Seychelles as the number of tourists and visiting, or inbound, roamers has soared over the past few years and far exceeded the nation's 94,000-plus citizens. According to the United Nations World Travel Organization Tourism Barometer, the Seychelles saw a more than 18 percent rise in number of tourists in 2015, making it one of the world's top 10 fastest-growing countries for tourism, and, in 2016, this number rose by almost 11 percent to 304,000 visitors from 275,000. To help Cable & Wireless Seychelles better manage the roaming experiences for this growing number, Syniverse will implement Syniverse Network Monitoring and Alerting as part of its global, reliable and secure platform. The service uses Syniverse's roaming-data-monitoring product, Total Visibility, to provide a holistic approach to roaming that enables operators to efficiently and proactively solve subscribers' problems and tailor their individual experiences in real time. With a flexible, cloud-based framework, Syniverse Network Monitoring and Alerting enables an operator to select only the capabilities that specifically pertain to its specific service features and implementation requirements. "With the GSMA predicting that 75 percent of the world's population will be covered by 4G-LTE networks by 2020, it's mission-critical for operators to be able to ensure that they can deliver the highest quality of roaming experience possible to meet customers' rising demands," said Nour Al Atassi, Regional Vice President and Managing Director, Middle East and Africa. "Our Network Monitoring and Alerting and global platform will give customers greater insight into their roaming usage and ability to manage roaming costs. At the same time, Cable & Wireless Seychelles will be able to better provide the best customer experience and maximize its roaming revenue." Syniverse's agreement builds on a long-standing customer relationship with Cable & Wireless Seychelles as well as on Syniverse's recent LTE work. Syniverse began working with Cable & Wireless Seychelles in 2008 with the implementation of data clearing services offered through Syniverse's Revenue Management portfolio, built on the relationship with the use of Risk Management services and GRX services, and most recently expanded the relationship with the implementation of LTE roaming service.

Consumer Protection in the GCC Must Remain Top Priority for Governments

GCC economies have been growing fast, incomes have been rising and new infrastructure projects are underway. The business sector is flourishing, and e-commerce industry and the wider sharing economy are gaining momentum. According to a recent study conducted by management consultancy Strategy& (formerly Booz & Company), these developments will directly impact efforts required to protect consumers against fraud, and consequently should be addressed. The rapid development of the GCC has led to significant improvements in infrastructure, rising income for citizens, and higher levels of international tourism. All of these have increased the need for more sophisticated consumer protection. Rising incomes for example have led to a dramatic increase in consumption. Additionally, rapid growth in tourism (both inbound and outbound) has exposed the GCC to markets abroad with more sophisticated consumer safeguard regulations. All of these factors are ultimately putting pressure on GCC governments to offer more robust and effective consumer protection solutions. Chucrallah Haddad, partner with Strategy&, said: "Progress will depend on the governments' attention to a few key areas. GCC governments need to look at the institutions currently responsible for consumer protection and think about how their roles need to evolve. They must have a clear understanding of when to use prevention measures versus enforcement measures by defining a clear enforcement philosophy, and make sure to involve better-informed consumers and the community in an effort to safeguard their own interests. According to the study by Strategy&, there are six tenets of consumer protection in the GCC:

1) Creating regulations that are in equal parts comprehensive and flexible. Detailed laws are the building blocks of a well-established consumer protection landscape. GCC governments should ensure that the laws they are working on individually and collaboratively are as comprehensive as possible to maximize the scope of consumer protection.

2) Put in place the right institutions and operating model. An empowered consumer protection body is required to manage core consumer protection functions such as consumer handling, research and inspection. GCC countries tend to be less far along in their protection-related institutions and processes. Sophisticated complaint-handling mechanisms, well-trained staff, and a robust research framework are key, and risk-based inspections should ultimately replace the less effective routine ones.

3) Define an enforcement philosophy. To ensure compliance with consumer protection laws, GCC countries should emphasize prevention through awareness for businesses and keep harsh enforcement for when the harm to consumers is severe and irreparable. GCC enforcement activities have mostly been conducted in an ad hoc way, often without clear targets.

4) Engage with the consumer and the community. Countries should conduct awareness campaigns addressing consumer rights and introduce a wide range of tools such as consumer helplines, digital recall platforms, and interactive online platforms to help consumers exercise and demand these rights. GCC countries have been increasingly active in this area, with Saudi Arabia and Qatar having launched consumer awareness campaigns to help consumers know their rights. Advocacy bodies can also play an important role in pushing consumers' rights; however, these only currently exist in Oman and Saudi Arabia from the GCC countries.

5) Go beyond state borders. GCC authorities should look to outline a clear road map and develop practical mechanisms to strengthen collaboration and share knowledge across borders. The GCC Consumer Protection Committee has held meetings to unify the region's efforts, discuss ways to launch integrated consumer protection platforms and develop a unified consumer protection law.

6) Take the long term view and continually evolve. It is important to keep improving the wider consumer protection ecosystem through leveraging research. Research — which can draw on information in the GCC countries' consumer complaint systems and in inspection data — is a vital part of understanding main threats for consumers and identifying possible remedies. This is essential if the GCC is to keep on improving its consumer protection ecosystem.

Further highlighting the need for consumer protection, Serge Eid, manager-with Strategy&, said: "Consumer protection is an ongoing effort to keep abuses from happening, minimize their impact when they inevitably do happen, and keep a specific type of abuse that has already happened from recurring. The numerous ways in which consumers can be taken advantage of means that GCC countries must be prepared to deal with problems in different areas and keep altering their consumer protection framework. Better safeguards for consumers will allow GCC countries to accelerate the modernization of their commerce."

Cisco Hosts First Edition of its IoT Hackathon in Lagos

In line with its corporate strategy for changing the way we live, work, learn and play through innovation, Cisco hosted the first edition of its Internet of Things (IoT) Hackathon in Lagos. The IoT Hackathon is a competition that invites creative and innovative students to develop innovative solutions to Nigerian challenges while receiving educational guidance and training. The Hackathon showcased the creativity of more than 20 students from different universities. Participants were lectured on how to develop technical skills, connect the physical world with the digital world using digitization and the IoT while developing solutions with rapid prototyping techniques. The Hackathon also allowed students gain first-hand experience in creating circuits with electronics, sensors and actuators.

Participants were also lectured on how to write codes interconnecting nodes using IP networks and cloud applications. The students engaged in team activities to develop IoT solutions ideas, while exploring electronic engineering. They worked with a combination of Raspberry Pi, Arduino Uno, Grove Pi and some additional sensors. Cisco also provided pitch trainings to the students to help articulate concepts within a limited amount of time. Students then prepared their presentation and demonstration before a jury where a winning team emerged. This year's winning team stems from Ahmadu Bello University Zaria, but all the students got prizes from Cisco. The Cisco Networking Academy is Cisco's flagship CSR programme. It partners with Government, schools, NGOs, colleges and universities to afford students the opportunity to become ICT networking, IoT and security professionals. In Nigeria, alone, Cisco, through the Networking Academy, has trained over 70,000 students (of which 38 percent are female) since its inception. It currently has 56 000 active students and an instructor population of 175 in 132 academies, 6 ASCs and 9 ITCs.

Cisco 2017 Midyear Cybersecurity Report Predicts New "Destruction of Service" Attacks; Scale and Impact of Threats Grow

The Cisco® (NASDAQ: CISCO) 2017 Midyear Cybersecurity Report (MCR) uncovers the rapid evolution of threats and the increasing magnitude of attacks, and forecasts potential "destruction of service" (DeOS) attacks. These could eliminate organizations' backups and safety nets, required to restore systems and data after an attack. Also, with the advent of the Internet of Things (IoT), key industries are bringing more operations online, increasing attack surfaces and the potential scale and impact of these threats. Recent cyber incidents such as WannaCry and Nyetya show the rapid spread and wide impact of attacks that look like traditional ransomware, but are much more destructive. These events foreshadow what Cisco is calling destruction of service attacks, which can be far more damaging, leaving businesses with no way to recover. The Internet of Things continues to offer new opportunities for cybercriminals, and its security weaknesses, ripe for exploitation, will play a central role in enabling these campaigns with escalating impact. Recent IoT botnet activity already suggests that some attackers may be laying the foundation for a wide-reaching, high-impact cyber-threat event that could potentially disrupt the Internet itself. "As recent incidents like WannaCry and Netya illustrate, our adversaries are becoming more and more creative in how they architect their attacks. While the majority of organizations took steps to improve security following a breach, businesses across industries are in a constant race against the attackers. Security effectiveness starts with closing the obvious gaps and making security a business priority, "said Steve Martino, Vice President and Chief Information Security Officer, Cisco. Measuring effectiveness of security practices in the face of these attacks is critical. Cisco tracks progress in reducing "time to detection" (TTD), the window of time between a compromise and the detection of a threat. Faster time to detection is critical to constrain attackers' operational space and minimize damage from intrusions. Since November 2015, Cisco decreased its median time-to-detection (TTD) from just over 39 hours to about 3.5 hours for the period from November

2016 to May 2017. This figure is based on opt-in telemetry gathered from Cisco security products deployed worldwide. "Complexity continues to hinder many organizations' security efforts. It's obvious that the years of investing in point products that can't integrate is creating huge opportunities for attackers who can easily identify overlooked vulnerabilities or gaps in security efforts. To effectively reduce Time to Detection and limit the impact of an attack, the industry must move to a more integrated, architectural approach that increases visibility and manageability, empowering security teams to close gaps," said Scott Manson, Cyber Security Leader for Middle East and Turkey, Cisco.

Cisco Jasper Removes Obstacles to IoT Implementation with Multi-Tier IoT Platform

While the number of businesses investing in IoT across all markets continues to grow, recent research shows that 60 percent of IoT initiatives stall at the proof-of-concept (POC) stage. This highlights that companies today are still struggling with the key challenges of IoT, including the need for more flexibility, greater security, and the ability to address new use cases. Cisco® Jasper® has been partnering with service providers to help its customer base, which has grown from 3,500 to 11,000 enterprises in the past year alone, to overcome these challenges and accelerate their IoT success. To continue to meet the exponential demand for IoT solutions, and in keeping with Cisco's dedication to helping customers get from paper to successful IoT deployment more quickly, today Cisco Jasper introduced a new expanded model to bring the benefits of its IoT connectivity platform – Control Center – to a broader audience. Control Center 7.0 addresses business' needs for greater flexibility with a new multi-tiered IoT platform that gives companies various options to meet their specific needs, regardless of which stage of IoT implementation they are in. This new platform is also paired with a new set of Premium Services that address previously unmet needs in the industry related to IoT monetization and security. "We first introduced our Control Center IoT connectivity management platform to the market over 10 years ago, and since then it has become the largest IoT platform with over 43M devices being managed today, and more than 1.5M new devices being added per month," said Jahangir Mohammed, GM of IoT at Cisco. "What we've learned from enabling IoT success for our 11K customers is that companies have different needs at different stages of their IoT journey. So today we're introducing the biggest evolution of our Control Center IoT platform ever, providing a flexible model and new Premium Services that help meet the needs of customers at any phase." With Control Center 7.0, Cisco Jasper is introducing a unique approach to IoT solutions unmatched in the industry, giving customers and service provider partners the flexibility to select and customize the capabilities and services that are right for their deployment, while also providing an easy path for growth as their IoT businesses scale. Control Center 7.0 provides this flexibility by being the first IoT platform to offer:

Advanced Capabilities: A new tier of the platform – Control Center Advanced – caters to customers with more sophisticated deployments that need greater capabilities.

Premium Services: The introduction of our first two Premium Services, compatible with Control Center, enables customers to solve for previously unmet IoT business needs. The Threat Protection & Smart Security (TPSS) service provides an IoT-specific solution to protect against malware and phishing attacks, and is built on Cisco Umbrella. The first applications of TPSS will be in the Connected Car industry. The second service, Traffic Segmentation, provides a new solution to support different types of revenue generation models. Cisco Jasper service providers can customize Premium Services to meet their customers' specific needs.

LPWAN Support: Control Center 7.0 extends the platform's capabilities – including the platform's global reach and scale via support for cellular networks – to low power devices via support for multiple LPWAN technologies, including NB-IoT and LTE-M.

AT&T, a Cisco Jasper service provider partner, is integrating these additional capabilities to meet IoT needs for a broad range of industries. The platform will be called AT&T Control Center Advanced, and will be paired with AT&T Premium Services. "We work with companies of every size and across every industry. No two companies are in the same stage when it comes to their IoT initiatives," said Chris Penrose, President, IoT Solutions, AT&T. "Control Center Advanced will enable us to meet our customers' needs no matter where they are in their IoT implementation – from initial deployment to scaling to millions of devices. Our collaboration with Cisco Jasper helps us put our customers in charge of their IoT solutions worldwide with additional

security features, analytics and automation rules to increase their ROI." Control Center 7.0 is the first version of the IoT platform to integrate multiple Cisco technologies, delivering on the promise made at the time of Jasper's acquisition to combine the power of Cisco's portfolio with the world's leading IoT connectivity management platform. As a result, Control Center 7.0 solves the biggest challenges companies currently face in IoT with:

- Multi-layer Security: Expanding upon Control Center's existing security capabilities, users now get multi-layered security controls including closed user groups, two-factor authentication, whitelisting capabilities and more to identify and solve known issues.
- Collaboration: Integration with Cisco Spark™ gives users the ability to easily collaborate on issues with connected devices, enabling them to lower resolution time and manage costs.
- Enhanced Analytics: New reports on historical trends of device behavior and usage enable users to take action on issues that impact performance, costs and security.

Support for Low Power Devices: Control Center 7.0 is the first commercially available IoT platform that supports the management of IoT devices across cellular, NB-IoT and LTE-M networks to accommodate a wide range of use cases. "When we acquired Jasper, we made a promise to the industry that Cisco and Jasper would be more than the sum of our separate parts – that we would create something better together," said Rowan Trollope, SVP and GM of IoT and Applications at Cisco. "This is the realization of that promise. And what we've built in the past year has surpassed even our lofty expectations." With Control Center 7.0, Cisco Jasper has created a single, integrated solution to address the needs of both Information Technology (IT) and Operational Technology (OT) professionals. Previously, Control Center – which automates and manages connectivity of devices on cellular networks globally – was a standalone offering. Today, Control Center 7.0 is yet another proof point of Cisco's leading innovation in IoT solutions, and is now compatible with Cisco's broader IoT Operations Platform, which integrates Connection Management, Data Delivery and Fog Computing for a complete end-to-end solution. And this complements the Cisco DNA offerings, which are delivering the next generation of networks to provide new levels of security, analytics and automation to enable exciting new IoT, cloud and mobile experiences. As a result, customers in any industry can now manage IoT from the edge to the cloud.

Ali Amer to Lead Cisco's Global Service Provider Business in the Middle East and Africa

Cisco announced that Ali Amer has been appointed Managing Director for Global Service Provider Sales in the Middle East and Africa at Cisco. In his new role, Ali will be responsible for helping telecommunications service providers transform their networks, businesses and customers' experiences to capture the opportunities created by the digital era. In addition to driving the segment's sales strategy and growth across the Middle East and Africa, he will also focus on streamlining business operations, including sales and channel strategy, business development and customer support. Amer will report to Peter Karlstromer, Senior Vice President for Global Service Provider Sales, Cisco EMEAR. He will work closely with the regions' mobile operators to develop their digital transformation roadmaps as they evolve their business and revenue models to meet the growing demand for data services and financial and commercial services. "It gives me great pleasure to announce Ali as the new leader for our Service Provider business in the Middle East and Africa," said Karlstromer. "Ali is a highly regarded leader known for his close working relationships and deep understanding of the telecoms industry landscape. His expertise and ability to build high performance teams will undoubtedly accelerate our momentum in delivering the digital ecosystem and network infrastructure that our customers need to capture rising opportunities." Amer joined Cisco in 2013, most recently serving as Managing Director for Cisco's Service Provider segment in the Middle East and Turkey. He brings to the role over 25 years of industry experience and was previously the Senior Telecom and IT Consultant in the same unit, advising multinationals and start-ups on market entrance and go-to-market strategies in the region. Prior to Cisco, Amer spent fifteen years at Motorola Networks rising to the position of Vice President and General Manager for Europe, the Middle East and Africa, where he ran an organization of 2,500 employees and business professionals with annual revenues in excess of $1 billion. "I am excited to take on this expanded role within our Service Provider business as Cisco continues to push the envelope with solutions, technologies and a vision that drives exponential value and success for our customers and partners," said Ali Amer, Managing Director, Global Service Provider Sales, Cisco Middle East and Africa. "With its significant growth potential, a rapidly expanding population, and increasing smartphone penetration, the telecommunications market in the Middle East and Africa is at an important junction. Cisco's technology capabilities and strong partnerships will play a pivotal role in enabling SPs to become truly intelligent network operators that are able unlock opportunities, enhance business agility, and drive service innovation and customer-experience enhancement." The next phase for the Middle East and Africa

telecommunications sector will be defined by an explosion in data demand. The annual Cisco Visual Networking Index™ (VNI) forecast projects a 12-fold increase in Middle East and Africa mobile data traffic from 2016 to 2021, a compound annual growth rate of 65 percent. By 2021, the Middle East and Africa will have 2.4 billion networked devices (up from 1.7 billion in 2016) and 1.4 networked devices per capita, while 75 percent of all networked devices will be mobile-connected in 2021. Across the Middle East and Africa, strong growth in mobile users, smartphones and Internet of Things (IoT) connections combine with network speed improvements and growth in mobile video consumption to significantly increase mobile data traffic over the next five years.

YahSat and Interactive Group Ink Deal to Offer Integrated ICT Solutions

Interactive Group – a Pakistan based integrated IT solutions provider – signed a Memorandum of Understanding (MoU) with Yahsat to combine connectivity and software solutions to extend the reach of jointly offered eHealth services across the global YahClick footprint. Interactive Group and YahSat Sign MOU to Offer Integrated ICTSolutions. Under the agreement, the collaboration will leverage YahClick's broadband connectivity and Interactive's proprietary software and platform to facilitate the deployment of integrated eHealth solutions, through the provision of Telemedicine, Tele-education and Veterinary Telemedicine solutions. Interactive Group and YahSat Sign MOU to Offer Integrated ICT Solutions The announcement comes after the successful joint deployment of, YahClick, the high-performance broadband service offered by Yahsat, and the proprietary software, designed by Interactive Group, for businesses in Pakistan. Najat Abdulrahman, Yahsat Executive Director Global Strategic Business Development, said: "Strong ICT systems and high-speed connectivity are a critical requirement for government and non-government organisations today. Recently, we have seen multiple initiatives, geared towards bridging the digital divide and enhancing the role of ICT, being launched across developing countries. These initiatives, coupled with HTS and Ka-band satellite technology can enable nations to develop and provide better services across key areas such as health, education and government services." Najat Added: We have partnered with Interactive Group to ensure that our customers not only have access to unmatched broadband services but also solutions that can streamline ICT processes and enable smooth transfer of information and data The E-Health solutions, include Tele-Medicine features, and utilize the strength of ICT to serve the healthcare sector in several aspects including: Connecting hospitals across cities with smaller medical centers in rural areas Overcoming the shortage of doctors by utilizing the platform to enable doctors to perform 'live' consultation with patients in remote or rural areas Providing document repositories to keep data safe and readily available when needed across hospitals and medical centers These solutions are also designed to facilitate humanitarian organizations, working across desolate areas in Africa and Asia, to improve healthcare and educational services. Dr. Shahid Mahmud, Group CEO at Interactive Group said: "Together with Yahsat, we have implemented integrated solutions for educational and healthcare institutions in Pakistan and witnessed remarkable results. One example is the Zubeda Khaliq Memorial Hospital in Sermik, Skardu, which provides medical facilities to the people of Baltistan, a remote region of Pakistan. With our integrated ICT solutions in place, the hospital is better equipped to manage and share critical information, which helps in managing patient inquiries and get insights from physicians in urban centers. The comprehensive, integrated solutions will meet the broadband, software, and hardware requirements of the customers. The companies will also supplement the offering with in-market installation and customer care support.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ARTICLE

The Emerging Role of Telcos in an Increasingly Digitalised World

The ever increasing world of digitisation is providing telecom companies the opportunity to rebuild their market positions, reimagine their business systems, and create innovative offerings for customers. In fact, digitisation can actually enable telcos to improve their profits by as much as 35 percent, yet the average improvement achieved is just 9 percent. Investment in the telecommunications industry as far as technology goes has rapidly increased and as a result, the total mobile data traffic has grown 4,000 times over the past 10 years, and 400 million times over the past 15 years . As the impact of the Fourth Industrial Revolution is felt more widely, digitisation is only going to increase further. As such, the requirement of cloud and mobile services is also going to increase. Reliable and secure connectivity will be critical for the operation of new technologies.

The increase in mobile data traffic has contributed to an unprecedented level of economic activity, including the global flow of goods, services, and finances, which has grown by 1.5 times to $26 trillion in the space of two decades.

The increase in mobile data traffic has contributed to an unprecedented level of economic activity, including the global flow of goods, services, and finances, which has grown by 1.5 times to $26 trillion in the space of two decades – 1990 and 2012. This figure could triple to more than $80 trillion by 2025 . Telcos of today are evolving to become ICT partners to their clients. Gone are the days where the prime focus was purely telephony. There are new players in the game, which have emerged as Internet of Things (IoT), the Cloud, and Smart Cities. Telcos are fast becoming the solid pipeline for companies and governments to undergo their own digital revolution. Studies have shown a strong correlation between profit margins and five select areas of IT, including robust customer analytics, digitisation of order management, self-service customer relationship management, a simplified IT-application landscape, and automation of IT-infrastructure management. Organisations with digital capabilities, in fact, boast a profit margin of 43 percent , compared to those with less digitisation.

Farid Faraidooni
Chief Operations Officer
du

du was chosen as the strategic partner to the Government's Smart Dubai Office as a telecom company, it is now becoming a leading Smart City enabler and supporter, providing connectivity experts from its Smart City portfolio, which is the most advanced in the Middle East. This partnership with the Smart Dubai Office will fast-track the Smart City development in a more efficient and sustainable way.

With a rise in Smart Cities, telcos are creating and providing services to cater to the new digital world. Smart cities are not just built through isolated projects or Governments taking the burden alone, it takes a community to make a Smart City dream a reality. The Smart City Project of the Dubai government builds on the considerable digitisation of the government services by integrating them with the IoT. The project will see the opportunity to marry live data from IoT with repositories of archival data of the city, to generate a whole new category of services and will go live in 2017. To increase the advancement of the state-of-the-art existing digital platforms, Dubai's government decided to change course and build applications on top of a platform that would be able to aggregate inter-related data, such as traffic volumes and corresponding accident rates. These will help to draw insights into ways to improve the quality of governance besides providing another crop or services to citizens.

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Telcos are part of the race towards 5G, where the target launch in the Gulf region is 2020. du is planning to revolutionise the way people live their lives through the launch of its U5GIG practical and innovative Initiative. du is taking the lead to build a UAE 5G Innovation Lab to prototype, test and validate early 5G and IoT, equipment and services. U5GIG will also allow universities and technical organisations across the UAE to work together and participate in the development of the 5G ecosystem, and for academia and industry to test applications and technologies in a real-world setting. U5GIG has been envisioned to be a consortium of technical and academic organisations in the UAE as well as, global telecom vendors to plan and use their expertise to define and develop a global 5G network. du was early to deploy LTE and they are eager to maintain their leadership with 5G technologies. Operators must be involved in the standardisation debate and plan a multi-phased approach to deploying 5G in order to maximise the opportunity and minimise the risks and costs associated with this migration. They can start by investing in key enablers of 5G such as virtualisation and site density.

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The telecom industry has been critical in the current process towards digitalisation across a range of sectors. From retailers to financial services, firms depend on telcos to provide customers with compelling online and mobile experience designed to capture their interests. The time for telcos is now, and making sure that they have the steps to creating reliable and secure connectivity technologies in the evolving digital world is critical. Making smart use of digital technologies across the whole business is an imperative for telecom operators in order to seize opportunities that can make them stronger and more profitable than before. Getting it right will involve a digital transformation that starts with full commitment and great leadership from the top.

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REGIONAL NEWS

STC's 1H17 Net Income Up 6.6% to USD1.3Bn

Saudi Telecom Company (STC) has published its financial results for the six months ended 30 June 2017, reporting a 6.6% increase in net profit to SAR4.904 billion (USD1.3 billion) from SAR4.599 billion reported in the corresponding period of 2016. The company attributed the positive result mainly to a SAR819 million rise in other income, despite the SAR230 million year-on-year decrease in gross profit to SAR14.317 billion. In the period under review, STC reported revenues of SAR26.033 billion, a 2.3% decrease y-o-y from SAR26.642 billion, while EBITDA reached SAR9.243 billion, down 1.6% from SAR9.687 billion. STC Group's CEO Khaled Biyari commented: 'The financial results achieved for the first half of 2017 reflects the efforts being made to constantly evolve, improve and develop the company strategy and operations and achieve the best returns for the shareholders. Despite the various difficulties facing the sector, STC sponsored programmes contributed to improve operational efficiency leading to improved income and margins. Therefore, net income for the second quarter increased 7.9% compared to the comparable period last year, and for the first half of 2017 net income increased 6.6% compared to the comparable period last year.'

Nepal Set to Get Chinese Internet Bandwidth from August

The Nepal Telecom (NT) officials are optimistic that Nepal will finally start getting the Chinese internet bandwidth from August as Chinese authorities are in the last stage of giving final touches to the optical fiber laying process on its side. According to NT officials, the Chinese authorities have started to re-locate the already laid optical fiber in areas around Lhasa after some fragments of the laid fibers were damaged and its maintenance became impossible owing to unfavorable weather conditions coupled with frequent avalanches. "As the maintenance works of the damaged cable could not be carried out for long, operation of the cross-border internet link project was delayed over and over again. However, Chinese authorities, including China Telecom, have started works to relocate the fiber cable in areas where connections were lost earlier instead of waiting for the favorable weather to start maintenance works," Shovan Adhikari, spokesperson for NT, said. Stating that the China Telecom is re-locating optical fiber along 20-kilometre stretch around Lhasa, Adhikari said, "The Chinese side has assured us that the entire optical fiber laying process would be completed soon and the line would be connected to NT's optical fiber that has already been extended up to Rasuwagadi-Kyirong border." However, NT is gearing up for a confirmation testing before launching the project commercially. NT has already laid the optical fiber from Kathmandu to Rasuwagadi (approximately 90 kilometers) to link with China Telecom. Signed between NT and China Telecom in December last year, the cross-border optical fiber link will enable Nepal to connect to the world via Hong Kong through China Telecom. Commercial operation of this project will also end the country's sole dependence on India for internet bandwidth. Nepal is currently linked to the global internet connectivity through Indian telecom operators via different optical fiber connections in Biratnagar, Bhairahawa, Birgunj, among others. Similarly, the Chinese bandwidth will also be an alternative source for the country to meet the growing demand of internet in Nepal. Optional bandwidth is also expected to increase competency of service providers in the country and reduce internet cost for consumers. NT, however, has not revealed the actual volume of bandwidth that it will receive from China after the project begins commercial operation.

Pakistan IT Industry Set to Enter International Market through Mobile and Gaming Apps

Pakistan is full of talent when it comes to IT which is very famous now a days. The Information Technology companies of Pakistan are endorsing international markets by launching mobile and gaming Apps. Pakistan Software Export Board is providing its full-fledged support to all IT companies aimed at creating conceptual mobile games. Pakistan IT Industry to Enter International Market Through Mobile and Gaming Apps. Promoting gaming and animation at international level will increase the market revenue for Pakistani Developers. Companies such as Midstorm Studios, GameView Studios, Pepper Pk and TkXeL have already paved their ways in international market. Official of PSEB said: The board facilitated the IT Industry through a series of project and programmes for promoting innovation and technologies. He said that companies which registered with PSEB were provided with various benefits. PSEB also supported them to participate in international events. Pakistan Software Export Board has launched new internship program, "Prime Minister ICT Internship Program" in collaboration with National ICT R&D Fund. PSEB has trained 3000 ICT graduates having 16 to 18 years of degrees via this program. In this way the young graduates have developed ICT skills which will help them to peruse their careers is respective field. He told that: PSEB also was also playing important role in providing office space to IT companies and such facilities were necessary for creating a platform for information exchange and linkage between academia, industry and the government No doubt, Pakistan is full of talent. The title animation sequence of Games of Thrones has been produced by Hameed Shaukat. Cricket Companion application is developed by a Pakistani startup, TricastMedia. Novaira Masood

and Laraib Atta, Pakistani animator and visual artists have made Pakistan proud by working with very famous Hollywood movies such as Transformer 3, X-men and Godzilla etc.

PTA Organized "Pakistan Digital Forum" to Discuss Pakistan's Future Digital Landscape

Pakistan Telecommunication Authority (PTA) in collaboration with Ministry of Information Technology, Internet Society Asia-Pacific Bureau, Higher Education Commission of Pakistan and Special Talent Exchange Program organized the "Pakistan Digital Forum" at Islamabad. The aim of the forum was to bring together the policy maker, regulator, telecom operators, relevant stake holders, regional experts, and researchers on a common platform to deliberate on the policy and implementation strategies on Pakistan's current and future digital landscape. This forum featured several ICT experts with national and international speakers to discuss digital transformation and Pakistani society, digital payments for a digital economy, digital technologies and sustainable development goals and building a digital Pakistan. PTA Authority, Representatives from MOIT, Internet Society Asia-Pacific Bureau, HEC and Special Talent Exchange were are present on this occasion. The forum was divided into five sessions, where during the discussion Speakers highlighted current and future IoTs marketplace in Pakistan, enabling opportunities by IoTs in industry, health, education and agriculture fields. Digital payments eco-system, e-commerce environment and Sustainable development goals for Pakistan were also focused in the forum. During the sessions it was highlighted that three important elements for a digital Pakistan are important i.e creation of digital infrastructure, digital literacy and awareness and delivering services digitally in local content all over the country. It was also highlighted that all concerned entities should work together in achieving this common goal of a digital Pakistan.

Omantel Extends Fiber Optic Services to More Areas

Omantel, the sultanate's first provider of integrated telecommunication services, announced the launch of fiber optic services in some more areas of North Batinah governorate. The expansion will give thousands of residents access to high-speed fiber optic technology (FTTH) in several areas in the wilayats of Sohar, Suwaiq, Saham, Shinas and Liwa, stated a press release. Availing the services will be residents of Muwaileh in Sohar, Liwa al Jadida in Liwa, Al Shabia, Al Aqar, Al Safia and Al Baliydah in Shinas, Deel al Brayk in Saham in addition to Bateha al Sahel, Al Qurha, Bateha Hilal (east police station) and Al Shuraisa (south Health Centre). Omantel is the only operator in the sultanate that provides triple play services (voice, data and IPTV) via fiber optics. The services are available at competitive prices, providing customers with excellent value for money while providing unmatched quality and speed for online gaming, video streaming with download speeds of up to 200mbps. Upon subscription, customers will receive free Internet for the first month, as well as a free Wi-Fi router. Customers who are currently subscribed to Omantel's ADSL services can maintain their fixed line numbers when they choose to upgrade to FTTH. Haitham Abdullah al Kharusi, vice president Consumer Business Unit, Omantel said, "We left no stone unturned to enable the sultanate to be at the forefront of technology application, with some of the highest connectivity and smartphone usage rates in the GCC through converged networks. We are delighted to announce the extension of our FTTH coverage to new areas in North Batinah and are honoured to be Oman's digital partner of choice with the largest fiber optic network in the sultanate." Bakhit Salim Kashoob, senior manager of Omantel in Batinah, Musandam and Buraimi said, "In line with the government's vision for digital transformation, Omantel heavily invests in expanding its operations in the sultanate, and ensuring that our robust telecom infrastructure is more accessible to people. By generating an enriched experience for our customers, we help promote digital inclusion for the community around us." Customers also have the option of purchasing value added services such as Omantel's TV+ service. Starting from an additional RO4 with OSN package it now comes with free two months subscription, as well as the Smart Home System for just RO3 a month. With the constant rise in demand for mobile and fixed broadband services, Omantel is extensively financing network expansion.

OTT Revenues Boost in MENA

According to Digital TV Research, Middle East and North Africa OTT TV episodes and movies will generate revenues of $1.75 billion by 2022, which is more than four times the $428 million recorded last year. As per the Middle East and North Africa OTT TV & Video Forecasts report, SVOD's dominance of the sector will increase. SVOD revenues will reach $1.23 billion by 2022 (70 percent of the OTT total), nearly $1 billion more than the 2016 total (56 percent of OTT revenues). Digital TV Research predicts 17.27 million SVOD homes by 2022, up from 3.74 million recorded by the end of last year. Turkey will continue as the leader by far. The top six regional platforms (Netflix, Amazon Prime Video, Icflix, Starz Play, iflix and Shahid Plus) will make up 39 percent of the region's SVOD subs by the end of 2022, up from 34 percent in 2016. Excluding Israel and Turkey, these six platforms will account for 78 percent of SVOD subscribers by 2022, down from 88 percent last year. Netflix will be the largest pan-regional SVOD platform by 2022, with an anticipated 3.26 million paying subs. This is more than five times the 2016 total. Icflix will surpass 2 million subscribers by 2022, quadrupling its 2016 total. Starz Play will add 1.60 million subs. Digital TV Research's forecast of 695,000 subscribers for iflix by 2022 only covers six of its eight current countries in MENA. Simon Murray, principal analyst at Digital TV Research, remarked: "A handful of mobile operators such as Orange, Zain, Ooredoo, Etisalat and Vodafone have assets across several countries. SVOD platforms can gain considerable economies of scale by signing distribution deals with mobile operators. Deals between mobile operators and SVOD platforms are already prevalent in the Middle East and North Africa—offering an example for the rest of the world to follow."

Telecom Operators Invest a Significant Amount in Pakistan

The telecom operators in the country, witnessing a positive growth in the sector, have invested a significant amount of US $ 287.6 million during first six months of previous fiscal year 2016-17. The main driver behind this investment was cellular mobile sector which has invested US $ 262 million during the period. Official sources said through enabling policies of Ministry of Information Technology and Telecommunications, the sector has not only witnessed steady growth but also contributed to national exchequer in term of revenues. The total tele-density reached 72.36 per cent at end of March-2017 as compared to 70.81 per cent at end of last fiscal year. The prime driver of increase of tele-density was growth in cellular mobile subscribers. The sources said in terms of overall investment in telecom sector, the momentum that was started in 2014 for up gradation of telecom networks for 3G and 4G services has continued. The reported Foreign Direct Investment (FDI) inflow in ICT sector (IT & Telecom) for the period July 2016 to March 2017 was US$ 55 million. Meanwhile, as per statistics, mobile phone imports in the country have witnessed increase during 2016 as compared to same period of previous year. Total imports of mobile phone stood at US $ 573.282 million while they were US $ 539.581 million in the same period last year. The import bill for mobile phones is likely to grow as smart phone adoption in Pakistan is flourishing due to expanding 3G and 4G networks. More affordable smartphones are now available in the market. According to the Ministry of Information Technology and Telecommunication, Pakistan spends around US $ 600 million each year on import of mobile phones. As a policy priority, Ministry of IT is engaged with international telephone manufacturing companies to establish local manufacturing/ assembling units through Public Private Partnership or otherwise. Chinese mobile manufacturers and their Pakistani importers have shown their interest in establishment of manufacturing/assembling units in Pakistan.

Etisalat Group Confirms Exit from Nigerian Market

Emirates Telecommunications Group (Etisalat Group) has announced the termination of its existing management and technical support agreements with Nigerian mobile operator Emerging Markets Telecommunications Services (operating under the brand name Etisalat Nigeria) with effect from 30 June 2017. The cancellation of the agreements on the use of the Etisalat brand in the West African nation has been deferred to 21 July 2017, although the UAE-based telecoms group says it is currently in the process of negotiating new deals for the use of the Etisalat brand, as well as technical services and strategic procurement support, with Nigeria's fourth largest cellco by subscribers. This has allowed the parties 'an opportunity to enter into a new interim trademark agreement without adversely impacting the company's ability to operate in the normal course', the firm added. Earlier this year Etisalat Nigeria defaulted on a USD1.2 billion loan with a consortium of 13 local banks and discussions between the operator and its lenders did not lead to a resolution on a debt restructuring plan. UAE-based state investment fund Mubadala, which had a 40% stake in Etisalat Nigeria, pulled out of the cellco and in June the firm's other major shareholder, Etisalat Group, said it had been ordered to transfer its 45% to United Capital Trustees, the security trustee of the firm's lenders, after talks had failed. Last week Nigeria's central bank and the Nigerian Communication Commission (NCC) intervened to save the cellco from collapse and maintain it as a going concern, regardless of changes in the company's shareholders.

Omantel Expands FTTH in Al Batinah North

Omantel Telecommunications Company (Omantel), the Sultanate's incumbent fixed and mobile operator, has launched its fiber-to-the-home (FTTH) services in new locations of the Al Batinah North region. Residents in several areas of the wilayats of Suhar, Suwaiq, Saham, Shinas and Liwa are now able to access broadband at maximum downstream speeds of 200Mbps, reports the Oman Tribune. 'In line with the government's vision for digital transformation, Omantel heavily invests in expanding its operations in the Sultanate, and ensuring that our robust telecom infrastructure is more accessible to people,' commented Bakhit Salim Kashoob, Senior Manager of Omantel in Batinah, Musandam and Buraimi, adding: 'By generating an enriched experience for our customers, we help promote digital inclusion for the community around us.'

Oman Tops Arab State in Global Cyber Security Index

Oman is the top-ranked Arab state in the second edition of Global Cybersecurity Index compiled by the International Telecommunication Union (ITU), the United Nations specialized agency for information and communication technology. In the global scale, Oman is ranked fourth while Qatar is ranked 25th and the UAE 47th. The leaders are Singapore, the US and Malaysia. The reported stated that Oman scored highest in the legal and capacity building pillars and it has a robust organizational structure, including a high-level cybersecurity strategy and master plan and comprehensive road map. The GCI-2017 measures countries' commitment to cybersecurity and helps them to identify areas for improvement. Through the information collected, the report aims to illustrate the practices in use so that ITU members can identify gaps and implement selected activities suitable to their national environment — with the added benefits of helping to harmonies practices and fostering a global culture of cybersecurity. Qatar, which is ranked third after Egypt, has been building a cybersecurity culture through campaigns such as Safer internet Day and has spread warnings about online threats, such as fraud and internet scams, via print and social media, the report said. "The Qatar Cyber Crimes Investigation Centre and Information Security Centre support efforts to safeguard the public and crack down on those who use technology to carry out criminal activities," the report said. The first edition of the Global Cybersecurity Index was launched in 2014. In that report, Oman is ranked third globally, followed by Qatar at eighth, the UAE at 17th and Saudi Arabia at 19th. Statistics on threats to computer networks are sobering and reflect a shift from the relatively innocuous spam of yesteryear to threats that are more malicious. Reports state that malicious emails became a weapon of choice for a wide range of cyberattacks during the year used by everyone from state sponsored cyber espionage groups to mass-mailing ransomware gangs. One-in-131 emails sent were malicious, the highest rate in five years. Ransomware continues to plague businesses and consumers. Attackers are demanding more and more from victims with the average ransom demand in 2016 rising to $1 077, up from $294 a year earlier. "At ITU, we are committed to making the internet more secure, safer and trustworthy, for the benefit of all," said Houlin Zhao, ITU Secretary General. "While the impact generated by cyber-attacks, such as those carried out as recently as June 27, 2017, may not be eliminated completely, prevention and mitigation measures to reduce the risks posed by cyber-related threats can and should always be put in place. The GCI reaffirms ITU's commitment to build confidence and security in the use of ICTs," he said. In addition to showing the overall cybersecurity commitment of ITU's 193 members, the index also shows the improvement and strengthening of all GCI indicators, which are defined by the five pillars of the ITU Global Cybersecurity Agenda as: legal, technical, organizational, capacity building and international cooperation. As the global community rapidly embraces ICTs as key enabler for social and economic development, said Brahima Sanou, Director of the ITU's Telecommunication Development Bureau, said that it is vital that cybersecurity is made an integral and indivisible part of the digital transformation. "We continue to encourage governments to consider national policies that take into account cybersecurity so that everyone can reap the benefits of the online world," he said.

Mobile Phone Use Gains Momentum in Asian Countries

The increasing utility of mobile phones has made them the most preferred device in the market today and Asian countries have seen an exponential increase in their usage. From 2000 to 2015, the average annual growth in mobile phone subscriptions reached 22 percent in Asia, increasing from 46 to 923 subscriptions per 1,000 people. Nepal registered the highest average annual growth of 67 percent in the region, according to the World Bank. The number of mobile phone users is growing rapidly in Nepal. Although the mobile penetration in Nepal was slow compared to other countries, it has now crossed the 100 percent mark. Samsung is the largest smartphone seller in the country, with the company claiming a 60 percent market share in the segment. Bangladesh has witnessed the second-highest average annual growth of 49 percent in mobile phones in Asia. A growth of 46 percent in smartphones was observed in Pakistan making it the third highest Asian country, as per the data from World Bank. India, with huge number of cell phones, has emerged as the potential growth market for adoption of the devices. India and Laos are also one of the leading countries having an annual growth of 43 percent in mobile phones in Asia. Countries like Cambodia, Indonesia and Sri Lanka have witnessed average annual growth of 37 percent, 33 percent and 29 percent in mobile phones, as per the data from the World Bank. Asian countries like Thailand, Mongolia and Philippines observed a lesser average annual growth of 24 percent, 20 percent and 19 percent in mobile phones. China has one of the highest numbers of smartphone users but still the average annual growth is quite low of 19 percent in smart phones. Malaysia, Singapore and South Korea are those Asian countries which have very less average annual growth of 13 percent, 5 percent and 4 percent in mobile phones, according to World Bank.

PTA Introduces a System to Block Stolen Phones

Devices Identification, Registration and Blocking System (DIRBS) have been introduced by Pakistan Telecommunication Authority (PTA) across Pakistan. The step has been taken to protect the unfair usage of users' data. This step in initiated to stop the use of unauthorized and stolen mobile handsets. As per the Mobile Devices Identification, Registration and Blocking Regulations, 2017, The initiative was taken because many stakeholders, Law Enforcement Agencies (LEAs) and customers demanded such system to be started for protection of mobiles and data. PTA has implemented certain regulations on the DIRBS. The regulations are mentioned below:

All mobile operators and type approval holders shall ensure that non-compliant mobile devices shall not be imported, sold, marketed or connected with the mobile operators' networks. Stolen phones, blocked phones, and phones with duplicate or non-standard identifiers shall be blocked by MNO(s) from use in Pakistan. Mobile phone owners/ subscribers may report their lost/stolen mobile devices blocked on the helpline of mobile phone companies that will be set up accordingly. Subscribers may prove the authenticity of their duplicated IMEI device(s) which have been blocked, by submitting valid documents to PTA and get services restored through pairing, if device is ascertained to be compliant as a result of scrutiny of the submitted documents to PTA. Individuals importing/ carrying device(s) for personal use will be required to apply for certification of compliance to technical standards for IMEI devices issued by PTA. Un-registered devices will be denied mobile communication service by the MNO (s) and will be included in the Black list by mobile phone operators if found operational on the public switched network. Any blacklisted mobile device will not be activated except for lost/ stolen and type approved devices which are verified by the mobile operators and DIRBS in accordance with the SOP approved by the PTA. The draft also mentioned the instructions given to the Mobile Network Operators or Handset Companies. These instructions included: Mobile licensees will become members of the International Mobile Equipment Identity Database (IMEI DB, formerly the CEIR) operated by the GSMA, or others as applicable. Mobile licensees will include countries that are the source of a large number of stolen devices to Pakistan in their IMEI DB notification profile. All MNOs shall carry out extensive media campaigns through SMS broadcasts, at their own cost, to educate consumers for the requirement to verify the validity of the mobile devices in their use and the procedure for verification of mobile devices available for sale/purchase, using the field verification system of DIRBS. The MNOs, Authorized Dealers and Type Approval Holders shall establish an efficient methodology promptly receive, process and respond to complaints, by subscribers regarding their devices. They shall make all reasonable efforts to resolve complaints in accordance with the Telecom Consumers Protection Regulations, 2009. Mobile operators shall not disclose the contents of any data being transmitted or received from DIRBS. It must remain under their control except to the extent permitted by PTA in writing or through any regulation/instruction/ directive. MNOs shall take all reasonable measures to safeguard the databases from unauthorized interception or unauthorized access. All type approval holders/Authorized Distributers/ OEMs shall provide accurate information of type approved devices for issuance of certification of compliance to technical standards for IMEI devices by PTA in order to maintain the updated list of IMEI numbers of devices in the DIRB System.

Iran's MCI Inks 5G Agreement with Nokia

Iranian cellular market leader Mobile Communications Company of Iran (MCI) has signed a memorandum of understanding (MoU) with Finnish vendor Nokia covering the development of 5G technology. The Financial Tribune reports that an agreement was signed in Tehran earlier this week. MCI claims more than 58% of the Iranian mobile market, with a customer base of almost 50 million.

Zain Saudi Arabia on Brink of $500M Towers Sale

Zain Saudi Arabia is close to reaching an agreement to sell around 7,500 mobile phone towers to Lebanon-based TASC Towers for $500 million, in a deal which could be completed by the end of the year, Bloomberg reported. TASC, which buys and leases towers in the Middle East and Asia, is in talks with banks to raise funds. "Zain remains interested in such a transaction and discussions are still in progress," Zain Saudi Arabia's CEO Peter Kaliaropoulos said in an email to Bloomberg, while a spokesman for TASC declined to comment. "Negotiations of this nature are complex, protracted and there is no certainty that these will lead to a transaction. There are no material developments to report at this stage," Kaliaropoulos added. The company said in December 2016 it was in talks with TASC and Acwa Holding over a deal for its towers. Meanwhile Saudi Telecom Company and Mobily, the country's top operators, are in talks to merge their towers. In May, Zain Group CEO and vice-chairman Bader Al- Kharafi noted Zain Saudi Arabia "recorded its first ever net profit" during Q1 2017, and forecast further improvements in what he called a "key market" as the company began to reap the benefit of a cost optimization programme and network upgrades.

ICT Spend to Reach US$ 5.5 Trillion by 2020 Globally

The growth of new technologies including the Internet of Things (IoT), Robotics, and Augmented Reality/Virtual Reality (AR/VR) will drive the next wave of growth in the information and communications technology (ICT) industry, enlarging the overall market opportunity to $5,5-trillion by 2020, according to IDC. In its newly released IDC Worldwide Black Book: 3rd Platform Edition illustrates the extent to which the industry is dependent upon new technology innovation for growth in the years ahead, as traditional revenue streams begin to decline in the face of cannibalization, substitution, and the shift to cloud-based solutions. New technologies, which IDC calls "Innovation Accelerators," will provide almost $7,4-trillion in aggregate industry revenue from 2015-2020, adding $1,8-trillion to the overall size of the industry in terms of annual sales by the end of the forecast period. A large proportion of this spending will come from the fast-growing IoT market, which is forecast to reach almost $1,3-trillion in annual revenue by 2020, of which more than $1-trillion represents new opportunity outside of traditional technology market categories (devices, infrastructure, software, services, and telecom). Robotics, AR/VR, security, cognitive/artificial intelligence, and 3D printing will contribute the rest of this fast-growing portion of the ICT market. "The traditional ICT market of data center infrastructure, client devices, software, services, and telecommunications is now growing at a rate not much faster than real GDP and increasingly resembles a mature sector of the overall economy," says Stephen Minton, program vice-president, Customer Insights & Analysis. "In fact, even within this traditional taxonomy of technology products and services, all of the growth is now coming from just four segments, which IDC calls the 3rd Platform – cloud, mobility, big data and analytics, and social business. The rest of the industry is already declining, which represents a huge challenge for vendors that are dependent on legacy markets and technologies." Between 2015 and 2020, overall ICT Spending, excluding the Innovation Accelerators, will see a compound annual growth rate (CAGR) of just 1% in constant currency terms. Including the Innovation Accelerators, ICT spending will increase by 5% over the same period. In total, the Innovation Accelerators will post a CAGR of 18%. Asia/Pacific (excluding Japan) represents the largest market for Innovation Accelerators, forecast to reach more than $600-billion by 2020, followed closely by the United States. The fastest growth over the same period will be in Latin America, Central & Eastern Europe, and the Middle East and Africa. "The writing is on the wall for legacy products and services, with the 3rd Platform and Innovation Accelerators driving all of the industry's growth in the next five years and beyond," adds Minton. "Device sales are now dominated by mobile devices and cloud service providers represent a growing proportion of all infrastructure hardware and software sales, while big data and analytics are at the heart of the fastest-growing opportunities. Meanwhile, growth in the telecom market is already entirely dependent on mobile." With public cloud services still growing at a double-digit rate, cloud will continue to cannibalize from traditional spending on infrastructure, software, and IT services. Big data and analytics is also still expanding at a double-digit rate of growth and is forecast to see a 12% CAGR between 2015 and 2020. Meanwhile, the explosion in smartphone sales over the past few years and the ongoing growth of mobile data services means that mobility is already valued at more than $1,5-trillion in annual sales. "There's a lot of overlap between old technologies and new opportunities, which means that even the growth of traditional products such as servers and storage are dependent on the 3rd Platform and Innovation Accelerators for future growth," says Minton. "The challenge for technology vendors is how quickly they can pivot from large, slowly-declining markets in order to achieve their full growth potential. The 2nd Platform still represents more than $1-trillion in annual ICT spending today, but the only way ahead is down."

UAE among World's Top Digital Elite

Just last month, the UAE leapt in the rankings of the Global Innovation Index, putting it at par with the best globally. And the nation's drive towards a technological revolution just keeps going. This time, it's among the 'Stand Out' digital economies, according to a new study. Digital Planet 2017, which measures how competitiveness and trust in digital economies vary across the world, reveals that the UAE is among the top nations when it comes to the digital economy. The Fletcher School at Tufts University and Mastercard-backed survey shows that the UAE is 22nd globally in its Digital Evolution Index 2017 score. This makes it the highest-ranking Arab nation and tops in the Middle East and North Africa. And it's no surprise that the country is enjoying this place: the UAE has been at the forefront of spurring innovation in every possible channel, with numerous programmes and initiatives being rolled out to stress the importance of keeping in pace - and even keeping ahead - with today's technology-driven world. The top 10 countries on the list - Norway, Sweden, Switzerland, Denmark, Finland, Singapore, South Korea, the UK, Hong Kong and the US - clearly show a trend: economies that are larger could be in danger of losing the digital race to smaller countries. Several nimble nations are ahead of the US and the UK on the list - and Japan is on the outside looking in at 15th, while Germany is at 17th and China is further down at 36th. If you factor in countries' relative digital momentum, the 'real stars' - as termed by Bloomberg - are Singapore, New Zealand (14th) and the UAE. "We all know technology can do more to improve economies and make our lives better, but growth is only achievable if everyone has confidence in the developing ecosystem," said Ajay Bhalla, president of global enterprise risk and security at Mastercard. "In our pursuit of a truly connected world, trust and security are critical to successful digital development." The report has six takeaways, the boxes of which the UAE all ticks, in one way or another:

- Using public policy as key to the success of the digital economy: It's no secret that the UAE is coming out with all sorts of initiatives to make life easier. A prime example in the country is the proliferation of smart services; need to pay a utility bill or don't have time to queue at the bank? There's an app for that. Too time-consuming to claim, say, your medical fitness test result? It's now sent via e-mail.
- Identifying and amplifying drivers of digital momentum: Digital momentum, the reports says, is powered by different drivers depending on a country's level of digital evolution and economic advancement, and priorities for institutions and innovation are key. In the UAE, there are several incubators and entities that support SMEs and startups to reach the next level of business.
- Organizing digital entrepôts as linchpins of the digital planet: Smaller countries with strong institutions can create high value as early adopters and create a demonstration effect for the world by assembling the right ecosystem. Several entities in the UAE - both public and private - have proven their strengths when it comes to technology. Furthermore, in years past, the UAE has increasingly become a key market for brands, making the country a priority for launches or settling in it as its hub for the region.
- Reinventing the digital stalwarts through refocusing on innovation: The most digitally-advanced economies can put their maturity, scale and network effects to use to reinvent themselves and grow. The UAE does this in the sense that it is investing heavily in the infrastructure needed to push digitization further and to reach more people.
- Playing digital catch-up by closing the mobile Internet gap: It's not actually a 'catching-up' case in the UAE, which has one of the best mobile Internet penetrations anywhere. In any case, having all digital bases covered will be a major boost to any country.
- Working harder to earn users' trust in more digitally-evolved countries: Hey, isn't it obvious? UAE residents are happy with all the smart and convenient services being provided - and they wouldn't mind having more of it.
- German software firm SAP, meanwhile, in a separate study, says digital leaders hold four key traits:
- They see digital transformation as truly transformational: Ninety-six per cent of leaders say digital transformation is a core business goal, compared to 61 per cent of all others. The transformation extends through their company, to how they interact with customers, suppliers and partners.
- They focus on customer-facing functions first: Seventy per cent of leaders say digital transformation is already delivering increased customer satisfaction, versus 22 per cent of all others. The customer experience is the gateway to a successful digital transformation.
- They priorities talent: Seventy-one per cent of leaders say that digital transformation efforts make it easier to attract and retain talent, against 54 per cent of all others. They also spend more on retraining the existing workforce than their peers.
- They invest in next-generation technologies: Fifty per cent of leaders are already working with AI and machine learning, compared to seven per cent of all others. They are also investing more heavily in Big Data and analytics (94 per cent versus 60 per cent) and the Internet of Things (76 per cent versus 52 per cent). Using a bimodal IT architecture lets them run legacy systems efficiently while rapidly integrating new technologies.

"Digital transformation is no longer a choice, it's an essential driver of revenue, profit and growth," said Vivek Bapat, senior vice-president and global head of marketing strategy and thought leadership at SAP.

"Executives need to move from simply understanding the high stakes to activating complete end-to-end execution across their business. This requires innovative breakthrough technologies, investing in digital skills, and retraining the existing workforce. The next two years will be a key inflection point, which will separate the digital winners from those left behind." Clearly, the UAE is on a winning streak, and we can be sure it will do everything to sustain that momentum and give others a run for their digital money.

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ARTICLE

How Telecom Operators can Thrive in the Age of Drones

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Telecom operators can position themselves to take advantage of the growing drones market in the GCC. Drones are becoming increasingly popular as they can help companies in diverse sectors transform their operations and make better decisions, such as through gathering and analyzing data or by conducting deliveries. As a result, the drones market is expanding at a rapid pace in the GCC, and could be worth US$1.5 billion by 2022.

The challenge for most companies across the industry spectrum is that they are in no position to conduct their own drone operations without massive investment or acquiring many new capabilities. That sets the stage for a separate player, telecom operators, to provide drone solutions for interested companies.

The challenge for most companies across the industry spectrum is that they are in no position to conduct their own drone operations without massive investment or acquiring many new capabilities. That sets the stage for a separate player, telecom operators, to provide drone solutions for interested companies. Telecom operators are obvious candidates to play this role and reap the resulting benefits because of their capabilities in connectivity, cloud computing, big data and analytics. Venturing into this market presents a unique chance for operators to diversify their sources of revenue, offering an opportunity that many are seeking for growth.

To take advantage of this opening, telecom operators first need to work out how to excel across four components of the drone value chain – procurement, operations, processing and analytics, and storage and delivery.

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Procurement involves equipping the drone device with the information systems, sensors and additional features that allow it to capture massive amounts of data and carry out critical tasks. In-house development, however, is costly and demands advanced capabilities. Operators would be well advised to choose from the wide selection of commercial drones offered by established global players.

On the other hand, drone operations – carrying out necessary tasks, such as collecting images and video footage, or transporting goods to the end client – should be conducted internally. As drone flights are very frequent, and as the task of recruiting or training pilots is relatively straightforward, it is more efficient for operators to build and acquire their own capabilities.

Operators then need a tailored strategy, comprising several aspects, to succeed in the drones market.

Over time, operators can certainly build capabilities in data processing and analytics, primarily in aerial imagery analytics. In the first phase, operators can create partnerships with leading data processing and analytics service providers. Once more expertise is acquired through these partnerships, operators should be able to conduct this work themselves, a vital step in terms of their own market value.

Operators use extensive cloud platform capabilities and can use these to store, manage, and deliver data to clients. Again, they could make use of partnerships, this time with service providers, to deliver and visualize data through a highly sophisticated platform for data presentation.

There are several potential business models available. These vary in terms of the type of drone solutions provided, and in the capabilities required. They include comprehensive drone commercial services, on-demand live video data acquisition, or a fully autonomous system operated on site for the client.

The regulatory environment is largely restrictive, with the region's authorities prioritizing security and public safety. Operators must actively engage with regulators to ensure their commercial needs are met, and that they are allowed to conduct drone operations throughout the relevant country.

Another, quite separate, opportunity presents itself to operators. They could assist in establishing a drone traffic control center, facilitating all its technology components from end to end. This would involve supplying and managing data storage, connectivity, cybersecurity, professional services and applications, including a drone traffic management system and real-time reporting and analytics.

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The regulatory environment is largely restrictive, with the region's authorities prioritizing security and public safety. Operators must actively engage with regulators to ensure their commercial needs are met, and that they are allowed to conduct drone operations throughout the relevant country.

They then need to analyze the drones market in its entirety to gauge where the business potential lies. Based on this market analysis and an assessment of their own capabilities, operators can select industries to target, discovering their challenges and identifying those drone services that can best tackle them.

Requirements for hardware, software and for the workforce should be set out at an early stage. The decision on whether to develop capabilities in-house, or whether they should be outsourced, depends on the level of necessary investment and specialist expertise required.

Technical expertise can certainly be quickly bolstered by recruiting experienced specialists. Meanwhile, regular training will strengthen the capabilities of existing employees in areas ranging from sales and business development, to conducting drone flights, to data processing and analytics.

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Finally, a target operating model should be selected. A new business unit to offer drone services could be set up, for example, with a standalone entity possibly being established as the business grows. By taking these considered steps, telecom operators can put themselves in the best possible position to win in the burgeoning and strategically important drones market.

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SATELLITE NEWS

Myanmar, Asian Satellite Operator Boost Business Service Partnership

Myanmar's KBZ Gateway company and Asia Satellite Telecommunications (AsiaSat) have extended business partnership for better connectivity service in the country, official media reported. Expanding VSAT broadband services to clients across the country, the KBZ has expanded its C-band and Ku-band capacity on AsiaSat 4 and AsiaSat 7 satellites for better services in banking and finance, oil and gas industries. With the expanded capacity, KBZ will be able to offer advanced broadband services up to 100 Mbps. KBZ has expanded its high-speed broadband network to 300 remote sites for its bank branch network connectivity and 24-hour ATM services, as well as remote oil and gas exploration sites across the country since 2016. AsiaSat has also planned to launch its next generation satellite AsiaSat 9 to replace AsiaSat 4 in late 2017. KBZ Gateway is a subsidiary of the Kanbawza (KBZ) group, one of the largest privately-owned company in Myanmar.

FAA Grants ViaSat Approval for Its Gen 2 IFC System

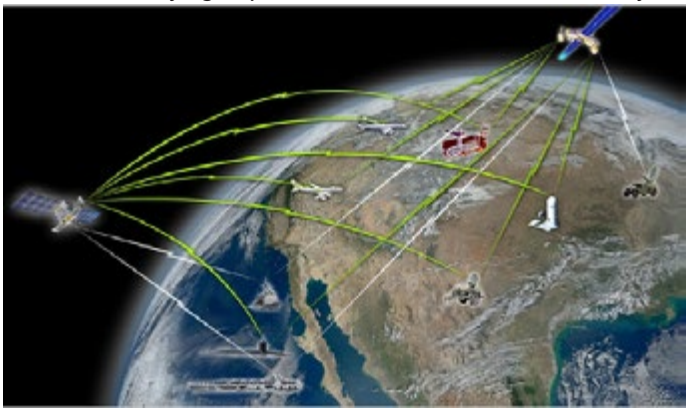
ViaSat has received Supplemental Type Certificate (STC) approval from the Federal Aviation Administration (FAA) for its second generation (Gen-2) In-Flight Entertainment and Connectivity (IFEC) system. The certification allows ViaSat to offer internet service on Boeing 737 aircraft. Achieving STC approval demonstrates the flight worthiness of ViaSat's Gen-2 Ka-band radome, antenna, entertainment software and in-cabin Wi-Fi distribution system. According to ViaSat, the system enables faster Wi-Fi speeds; throughput levels of up to 1 Gigabit per second; forward and backward compatibility with the ViaSat 2 and ViaSat 3 class satellites; and 30 terabytes of solid-state storage. The first installation of the Gen-2 equipment was certified on a Qantas 737-800 aircraft in June 2017. ViaSat expects to offer more than 3.5 terabits per second of total global capacity in the next few years.

Sky and Space Global Kicks off Services with First 3 Nanosatellites

Sky and Space Global has successfully tested Radio Frequency (RF) communications between its three demonstrator nanosatellites in Low Earth Orbit (LEO), thus becoming one of the first prospective NewSpace operators to turn its business into a reality. According to Chief Executive Officer (CEO) Meir Moalem, the company will also use this first set of nanosatellites, dubbed the "Three Diamonds," to provide its first few customers with preliminary services as it prepares to launch the rest of its narrowband fleet. As Via Satellite previously reported, Sky and Space Global is working to orbit a fleet of 200 nanosatellites to provide basic communications services, such as phone calls and data forwarding, in developing regions. Although it only required two assets on-orbit to demonstrate the company's technology, including the inter-satellite links at the core of its business model, Moalem said the company decided to send up an additional satellite both as a redundancy and to provide additional capabilities. Like the rest of the eventual fleet, the Three Diamonds circle the Earth in Sun Synchronous Orbit (SSO), meaning they pass overhead approximately four times a day. This sporadic connectivity is inadequate for a phone call service, but still provides an opportunity for the company to test its Machine-to-Machine (M2M) and Internet of Things (IOT) capabilities, Moalem said. Until the remainder of the fleet is orbited, Moalem said Sky and Space Global will work mainly with customers who need to transfer data a few times per day, turning the first set of demonstrator satellites into actual commercial assets for the company. Once testing of the subsystems and payloads is complete in a couple of months, the company will then pursue the remainder of the funds it needs to deploy its full constellation through the Australian Securities Exchange, a total capital expenditure of less than $200 million, according to Moalem. While Sky and Space Global has not yet signed fully binding contracts with customers for the whole constellation, Moalem said the company is "moving forward very rapidly toward that." A handful of companies, including SatSpace Africa and Global Sat Group, have already signed letters of intent to leverage capacity on the full constellation. Given its targeted markets, one of the company's primary objectives is to keep cost of access as low as possible. Moalem said Sky and Space Global will tailor its price points according to the specific market, services and customers. "You cannot expect the farmer in Congo to pay the same kind of prices as an oil company in the ocean or a gold mine in the heart of Africa. And the kind of services they require are different," he said.

Are Satellites the Key to Cybersecurity in the Cloud?

Cloud Constellation has partnered with Turkish satcom company Teknomobil to resell its Space Belt data services to customer markets in Turkey and the Middle East. Cloud Constellation is a startup that is currently developing a Low Earth Orbit (LEO) constellation of secure data centers for cloud service providers. According to Cloud Constellation President Cliff Beek, the partnership is a step toward the company's broader market strategy of aggregating global resellers in regions and verticals where data security is paramount. Teknomobil in particular maintains relationships with the Turkish military and Air Force, which have been assisting Syrian rebels in combat against the Islamic State of Iraq and Syria (ISIS) as recently as March. "Hostile environments" like these, where operators must be able to guarantee their communications are secure, are just one kind of market segment where Cloud Constellation sees valuable use cases for its network — "whether it's [managing] drone traffic or other military applications," Beek said. "[The partnership] gives us coverage in areas that would be very difficult for us to try and put boots on the ground," he added. As Via Satellite previously reported, the goal of the company is to assemble a LEO network of 12 to 15 nanosatellites interconnected with optical lasers. Once completed, the constellation will offer up to four petabytes of data storage, according to Beek, and will also allow customers to transfer data around the globe without having to rely on ground network infrastructure. Although Cloud Constellation is still relatively young, having completed its Series A funding round a little over a year ago, Beek said customer reception has been strong. The company has already signed about 10 customers, he said, and is fielding interest from a range of entities looking to bypass traditional terrestrial networks to get to their customer end points. Other verticals that have expressed interest include cryptocurrency blockchain companies and organizations in the media and entertainment industry, both of which have experienced highly publicized data breaches in recent years. "We're approaching customers in various market segments and … have spoken to groups like IBM, Google [and] Microsoft," Beek said. Each has been very active in developing new applications for Artificial Intelligence (AI), Big Data and the Internet of Things (IOT). "The problem they have is trying to get data around the world through IOT and their edge sensors," he noted. Beek pointed out that one of the biggest downfalls of terrestrial-based networks is that the information must pass through multiple peering and exchange points along its journey, giving hijackers ample opportunity to intercept and reroute the data. If you send an email from New York to California, for example, it could zoom over to a London internet exchange, then back through an exchange in Miami before the message arrives on the other side of the country. "You have no idea how it's being routed and it's in a nanosecond. That's where the problem starts," Beek said. All it takes, he said, is an IT worker to accidentally leave a DNS port open and hackers can slip in unseen. However, because the Space Belt constellation bypasses terrestrial networks entirely by leveraging capacity from Geosynchronous Earth Orbit (GEO) satellites, it is an inherently more secure means of transferring data, Beek said. "Cybersecurity through satellites is an alternative that is more difficult to penetrate," he said. "It's not going to stop somebody from clicking on a link that has a zip bomb with a malware attack, but it certainly will prevent the hacking and hijacking of data." Rather than turn its satellites' reflectors down toward the ground, Cloud Constellation will point them upward to face existing satellites in GEO. "We are essentially utilizing their connectivity to the ground very much like a cell tower," Beek explained. Beek believes this system will stimulate the stagnating GEO business model — a segment of the satellite industry that experienced as a consistent downturn in recent years — because the network optimizes assets that exist in space today. "We're not trying to displace them like other LEOs," Beek said. "And we're not trying to compete with LEOs to provide connectivity to the rest of the world. This is a business model that is trying to protect data." Before the end of the year,



Cloud Constellation expects to make two major announcements: one regarding the selection of its manufacturing vendor, and the other a confirmation of the launch vehicle that will orbit its satellites. Beek said the company has focused in on Virgin Orbit, which will operate out of Long Beach, California. "From a commercial perspective, the economics there could work well for us," he said.

Canada to Use ETL Systems' RF Equipment for WGS Constellation

ETL Systems has announced that General Dynamics and the Canadian Armed Forces will use its Radio Frequency (RF) equipment for in-service support of the Mercury Global Anchor Segment (MGAS). The MGAS anchor stations — seven stations at three sites across Canada — will communicate with the Wideband Global Satcom (WGS) satellite constellation and link them to existing Canadian Armed Forces communications infrastructure. Mercury Global will provide the CAF with assured access to wideband military satellite communications. The CAF will ultimately have access to bandwidth from the nine WGS satellites, using the three anchor sites located in Eastern, Central and Western Canada. A range of ETL's RF equipment has been used as part of the WGS project, including its receive matrix system on downlinks and combining matrix on the uplink. Additionally, General Dynamics is using ETL's Alto line amplifiers for both the satellites' Transmitter (TX) and Receiver (RX) links at the MGAS anchor stations.

Launch Date Up in the Air for NASA's Damaged Satellite

A communications satellite developed by NASA was damaged at Astrotech Space Operations in Titusville, Florida. According to NASA, the incident involved the satellite's Omni S-band antenna and occurred during final spacecraft closeout activities on the Tracking Data Relay Satellite Mission (TDRS-M). Although they have not released any additional information, NASA and manufacturer Boeing are currently assessing flight acceptance to determine whether the satellite will launch as scheduled. NASA originally planned to launch the satellite on Aug. 3 aboard an Atlas 5 rocket from Cape Canaveral Air Force Station in Florida. NASA's Tracking and Data Relay Satellite System enables satcom services for NASA spacecraft, including the International Space Station and ground control stations on Earth. According to NASA, the addition of this newest satellite allows the network to support space communications for an additional 15 years.

Kratos Delivers Radio Monitoring System for Oman

Kratos Defense & Security Solutions announced that The Telecommunications Regulatory Authority (TRA) of the Sultanate of Oman has formally accepted Kratos' Advanced Space Radio Monitoring System (ASRMS). The multi-million-dollar project started in late 2014 and includes 10 years of long-term support services for the ASRMS system. ASRMS is a satellite monitoring and geolocation solution developed to help satellite frequency regulators identify authorized and unauthorized satellite communication signals, manage the satellite spectrum used in their respective countries, and help improve cooperation with other telecommunications regulatory agencies. Working with TRA, Kratos was responsible for virtually every aspect of the system including the core satellite technology and associated hardware and software, according to the company. ASRMS includes several Kratos antennas covering Ultra High Frequency (UHF), L-, C-, X-, Ku-, Ka-bands, a mobile vehicle providing analysis capabilities for both Earth-to-space and space-to-Earth signals and an Unmanned Aerial Vehicle (UAV) spectrum analyzing solution. Additionally, Kratos managed the build-out of the civil works (housing, road access, power, water, etc.) needed to support the system. According to Kratos, ASRMS eases regulator management of the satellite Radio Frequency (RF) spectrum over their countries including known and unknown transmissions.

Australia Selects Northrop Grumman to Expand WGS Participation

The Australian Defense Force (ADF) is expanding its global satellite investment with a $175 million contract to Northrop Grumman to provide network management capability for Australia's participation in the Wideband Global Satellite Communications (WGS) system. Northrop Grumman will provide its Satellite Communications Operations and Planning Element (SCOPE) integration tools, alongside ViaSat's dual-band satellite terminal and Australian telecommunications company Optus' operating systems to fully realize Australia's participation in the global satellite operation. The WGS is a global satellite partnership to provide secure communication systems between the United States, Australia, Canada, Denmark, Luxembourg, the Netherlands and New Zealand using space segment satellites. "Northrop Grumman's SCOPE core capabilities are the foundation of this proven, operational system that manages and monitors satellite communications today," Chief Executive of Northrop Grumman Australia Ian Irving said in a statement. "That experience forms the ADF sovereign capability, providing benefits to Australia while reducing program risk." The contract, initially awarded in June, is part of the ADF's multi-phase Joint Protect 2008 meant to increase the nation's global satcom bandwidth capabilities. As part of Phase 5B2 of the project, Northrop Grumman will install a satellite ground station in Wagga Wagga, New South Wales to operate the ADF's wideband satcom network management system and support satellite tools for deployed forces. This ground station will then be integrated as part of the WGS system's group of secure military global communications satellites. Optus is currently the largest satellite provider for Australia and New Zealand and ViaSat recently finished installation of 10 new ground stations for Australia's National Broadband Network (NBN) program.

Orbcomm Brings Satellite M2M Services to China

Orbcomm announced it has signed an agreement with Beijing Marine Communication Navigation Company (MCN), a supplier of Inmarsat mobile satellite services in China, to provide Orbcomm's IsatData Pro (IDP) service in China. This agreement opens China for global enterprise customers that use Orbcomm's IDP offerings for their asset monitoring applications across industrial markets such as transportation, heavy equipment, oil and gas, and maritime. According to Orbcomm, the IDP service allows businesses to share more data across operations via emails, text messages, electronic forms and workflow information. The IDP series supports a range of security and location-based Machine-to-Machine (M2M) services, including heavy equipment telematics, tracking and in-cab messaging for fleet management, transmitting fixed equipment telemetry information for remote oil and gas monitoring, and vessel tracking and buoy monitoring in maritime applications. Orbcomm and MCN will begin to market and distribute the IDP service in China immediately. "We believe ORBCOMM's IDP service offers a unique advantage, especially for the transportation, public service and government sectors, by enabling enterprises to share more data across diverse operations and workflow automation, while improving the security and efficiency of their business," said Song Zhen, MCN's vice president.

FCC Grants Arycom License to Operate in the US

Arycom announced that the company has received the International 214 Authorization from the Federal Communications Commission (FCC) and is now authorized to provide telecommunications services to and from the United States. Arycom has been providing satellite voice and broadband data solutions in South America from its Brazil headquarters since its founding in 2001. From its U.S. base of operations in Miami, the company has been selling satellite communications equipment, software and value added products to its customers around the world. With the awarding of the FCC license, Arycom can now immediately begin selling mobile and fixed satellite communications solutions in the U.S., and will do so from Miami and its newly opened office in Atlanta. Arycom intends to initially focus on the business aviation market to meet the burgeoning demand for In-Flight Connectivity (IFC). Some of the services Arycom offers include basic data connectivity and messaging, high-speed broadband internet, telephony, flight planning and flight safety, and geotracking. With its newly awarded license, Arycom can now serve the U.S. needs of its existing customers in South America while at the same time pursuing opportunities with new customers in the United States.

XipLink Announces Multi-Gigabit Hubs for HTS and Hybrid Networks

XipLink has announced immediate availability for its new XA-200K model, a 1U form factor appliance that supports up to 200,000 simultaneous sessions for Transmission Control Protocol (TCP) acceleration and IP traffic optimization to 1.3 Gbps. In addition, XipLink is offering two sister products using the same scalable technology for TCP acceleration applications only, the XS-SCPS-200K, and a virtual version leveraging high performance hypervisors supporting all XipOS optimization features called the XV-Gig. XipLink also announced future availability for a horizontally scalable platform running multiple Virtual Machines to obtain aggregate capacities of 10 to 15 Gbps and more than one million TCP sessions later in 2017. The XA-200K appliance supports all standard XipOS features such as Space Communications Protocol Specifications (SCPS)-based TCP acceleration, streaming compression, XipLink Real-Time (XRT) User Datagram Protocol (UDP) optimizations for header compression, packet coalescing, link balancing and bonding, and packet compression. Other packet payload benefits are included in the base package using object caching for web traffic and byte caching for redundant data traffic. The XA-200K optionally supports one-way web optimizations with the XipLink Hub Optimizations (XHO) feature or accelerated VPN/IPSec networks with integrated layer-3 encryption capability. For customers requiring virtual machine support, XipLink offers the full XipOS optimization suite using hypervisors such as VMware and others. The XipLink Virtual (XV) products are organized with the same session and bandwidth parameters as the appliances with images for systems as small as the XV-500C (500 sessions and 4 Mbps) up to the largest XV-100K (100,000 sessions and 650 Mbps). Some of these features include IPv6 addressing to reach the exploding number of end-points in wireless networks, expanded Virtual Local Area Network (VLAN) capability to allow service providers more customer end points in multi-tenant configurations, and a new configurator that allows customers to provision larger networks faster.

DISA Awards Comtech a $14.5 Million Contract Modification

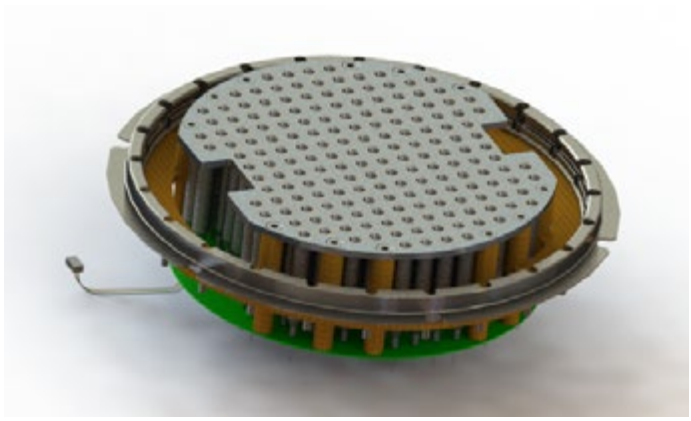
Comtech Telecommunications announced that during its fourth quarter of fiscal 2017, its command and control technologies group received a $14.5 million contract modification from the United States' Defense Information Systems Agency (DISA). The modification will result in the exercise of the fourth-year option under an existing contract to provide Ku-band satellite bandwidth and support services for the U.S. Marine Corps' Tactical Satellite Communications Network. The fourth option year covers the period from August 1, 2017, through July 31, 2018. The customer has now funded $73 million to date on this contract. Comtech is providing the Marine Corps with commercial satellite services to various terminals to extend the Marine Corps Enterprise Network for deployed users. This order was issued under the joint DISA/U.S. General Services Administration (GSA) Future Commercial Satcom Acquisition program. DISA and GSA are managing this procurement through the $2.6 billion Custom Satcom Solutions (CS2) contract vehicle, of which Comtech is one of eight prime contract awardees.

National Space Council Reestablished with Executive Order

President Donald Trump signed an executive order on Friday, June 30, resurrecting the National Space Council, an organization originally established to coordinate the United States' space policy between government agencies. Vice President Mike Pence will be the chairman of the new Council, serving alongside several presidential cabinet members, secretaries from multiple government departments, NASA representatives, and leaders from the private space industry. However, President Trump has yet to appoint a new NASA administrator, nor has he selected a new director for the Office of Science and Technology Policy, both of whom will have a seat on the Council. Former astronauts including Buzz Aldrin attended the signing, along with representatives from Lockheed Martin and Boeing. President Dwight Eisenhower first established the National Aeronautics and Space Council in 1958, setting the stage for the United States' Moon landing in 1969 before dissolving in the early '70s. President George H.W. Bush then briefly revived the advisory body in 1989 under a new name, though it too disbanded after he left office. In a statement released after the executive order, NASA Acting Administrator Robert Lightfoot said the reestablishment of the council reflects the Trump Administration's deep interest in NASA's work, and is "a testament to the importance of space exploration to our economy, our nation, and the planet as a whole."

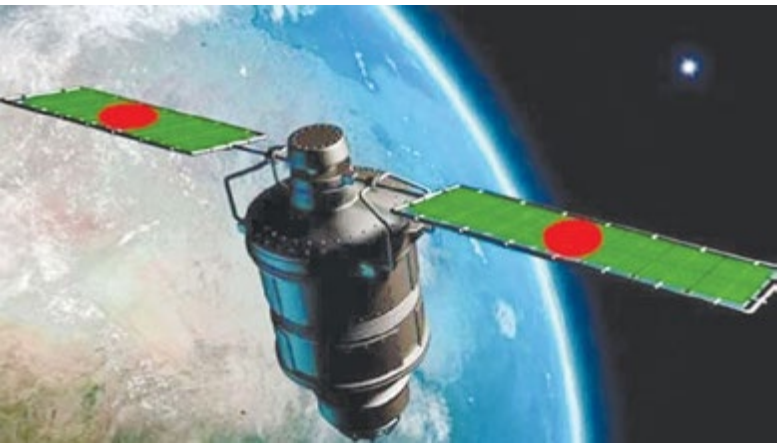
PacSci EMC Tests New Technologies on Demonstrator Satellite

PacSci EMC successfully completed initial payload tests of new technologies on its on-orbit technology demonstrator satellite, PacSciSat, on June 30. After a one-week satellite commissioning period in a 515 km sun synchronous polar orbit, PacSci EMC successfully passed built-in tests on both its primary and redundant Smart Energetics Architecture (SEA) sequencing system and devices, fired two Smart Initiators, and demonstrated pyrotechnic rocket-based attitude control maneuvers. "This phase of the mission proved that our SEA-based networked sequencing system firing Smart Initiators, performs reliably and precisely as commanded and is now at Technology Readiness Level 9 (TRL-9)," said Greg Scaven, PacSci EMC's president. According to PacSci EMC, the low power SEA sequencing system is capable of firing hundreds of pyrotechnic devices with microsecond repeatability and sub-millisecond sequencing. Satellites and spacecraft can use the system to deploy solar arrays, scientific instruments and other devices. PacSciSat launched on June 22, atop the Indian Space Research Organization's (ISRO) Polar Satellite Launch Vehicle (PSLV) from the Satish Dhawan Space Centre in India.



Government Plans to Open New Company to Operate Satellite

The cabinet on Monday approved a proposal for constitution of the Bangladesh Communication Satellite Company (BCSC) Limited to smoothly operate the country's first-ever Satellite-1. The approval came at the regular weekly cabinet meeting held at Bangladesh Secretariat with Prime Minister in the chair. Briefing reporters after the meeting, Cabinet Secretary said Bangladesh is going to join the Satellite Club very soon as the process for launching the country's first-ever satellite named "Bangabandhu Satellite-1" has almost been completed.



"The satellite will be launched into the space very soon, and to operate it, a decision to form a company has been made," he said. Secretary further said the Ministry of Post and Telecommunications placed the proposal for formation of the company following the suggestions of those who will locally operate the Satellite-1. The cabinet secretary said the name of the company will be Bangladesh Communication Satellite Company (BCSC) Limited. "The company will be formed with the authorized capital of Tk 50 billion and it will have Tk 5 billion shares," he said, adding the price of each share will be Tk 10. Secretary said in the Memorandum of Article, a proposal has been made to form an 11-member committee for the company, and all of its members will be government employees. He said the post and telecommunications secretary and the managing director of the BCSC Ltd will act as the chairman and the member secretary of the company respectively. The other directors of the company will be the additional secretary of the ministry of post and telecommunications, representatives of the ministries of finance, information and defense and a representative of the Armed Forces Division, the chairman of SPARSO, the DG of Bangladesh Telecommunications Company Ltd and two other persons to be nominated by the government, Secretary said. Ministers and state ministers attended the meeting while secretaries concerned were present.

HS3-IS Satellite Successfully Launched

Hellas Sat, member of the Arabsat Group, announced the successful launch of the HS3-IS Satellite aboard an Ariane 5 launch vehicle from the Guiana Space Center in French Guiana. The Ariane 5 liftoff occurred at 11:08 Athens time, carrying the HS3-IS satellite that was built by Thales Alenia Space. HS3-IS will maintain and expand DTH and telecom services for the Hellas Sat business reach in Europe, Middle East and Africa from the orbital position of 39 Degrees East.

Intelsat, Gilat Offer 3G Services to Ultra-Remote Locations

Intelsat and Gilat Satellite Networks announced a joint managed services solution to provide 3G infrastructure in the most remote locations around the globe, where terrestrial services are not feasible. Mobile Reach Solar 3G is an end-to-end managed solution for Mobile Network Operators (MNOs) who want to expand their service footprint efficiently into ultra-rural regions where traditional network build outs are uneconomical. The turnkey, solar-powered package combines Intelsat connectivity, including services from the Intelsat Epic High-Throughput Satellite (HTS) platform, bundled with Gilat's Very Small Aperture Terminal (VSAT) system for small cell and cellular backhaul. The combination allows an MNO to expand 3G service over a 2.5-kilometer radius, and includes power supply, mono-pole, and all satellite and cellular equipment. According to the companies, Mobile Reach Solar 3G is a small-cell over satellite package that can be carried by hand and installed by just a few people. It is intended for MNOs looking to extend services and address market needs, where unreliable or non-existent power supplies requires diesel generators to provide consistent service levels. In those environments, maintaining equipment and securing fuel can be the most difficult and expensive part of keeping traditional cell towers operational.

SpaceX Outpaces Competition with Successful Launch of Intelsat 35e

After two last-minute aborts over the holiday weekend, SpaceX successfully orbited a satellite for operator Intelsat on Wednesday evening, July 5. At 7:38 p.m. EDT, a Falcon 9 rocket lifted off from Launch Complex 39A at the Kennedy Space Center and delivered the Intelsat 35e satellite into Geostationary Transfer Orbit (GTO). Intelsat 35e, the fourth addition to Intelsat's Epic High-Throughput Satellite (HTS) constellation, carries a C- and Ku-band payload, and will meet demand for wireless backhaul, mobility services, Direct-to-Home (DTH) transmissions, and government applications in the Caribbean, Europe and Africa. Intelsat 35e was originally scheduled to fly on July 2, but due to a computer-triggered abnormality SpaceX was forced to scrub the launch just 9 seconds before liftoff. Engineers from the company spent the Fourth of July holiday conducting a full review of the rocket and pad systems. This launch marks SpaceX's third in less than two weeks — the first was for BulgariaSat, the second for Iridium, and now Intelsat — which is a notable uptick in its launch rate compared to last year. Already the company has conducted more successful launches in 2017 than it has in any previous year, outpacing both United Launch Alliance (ULA) and Arianespace. SpaceX still has at least 10 launches left in its manifest for 2017, including the first demonstration flight of its larger heavy-lift rocket Falcon Heavy in the third quarter.

Trimble Unveils GNSS Receiver for Mobile Devices

Trimble announced that its Trimble Catalyst software-defined Global Navigation Satellite System (GNSS) receiver for Android devices is now available through Trimble's global distribution network. Customers can now access Positioning-as-a-Service to collect geolocation data with Trimble or third-party apps on smartphones, tablets and mobile handhelds. When combined with a digital antenna and subscription to the Catalyst service, the receiver provides on-demand GNSS positioning capabilities to transform consumer devices into centimeter-accurate mobile data collection systems. The Trimble Catalyst solution includes a Software Development Kit (SDK) for building mobile applications with integrated workflows. Both Trimble and third-party development teams have produced Catalyst-enabled applications for Geographic Information System (GIS) data acquisition, cadastral land management, topographic mapping and ground control for Unmanned Aerial Vehicles (UAVs). "Our goal has always been to extend the accessibility of high-accuracy positioning to a broader base of geospatial and non-geospatial professionals," said Ron Bisio, vice president of Trimble Geospatial.

SpaceX Scrubs Two Back-to-Back Launches for Intelsat 35e

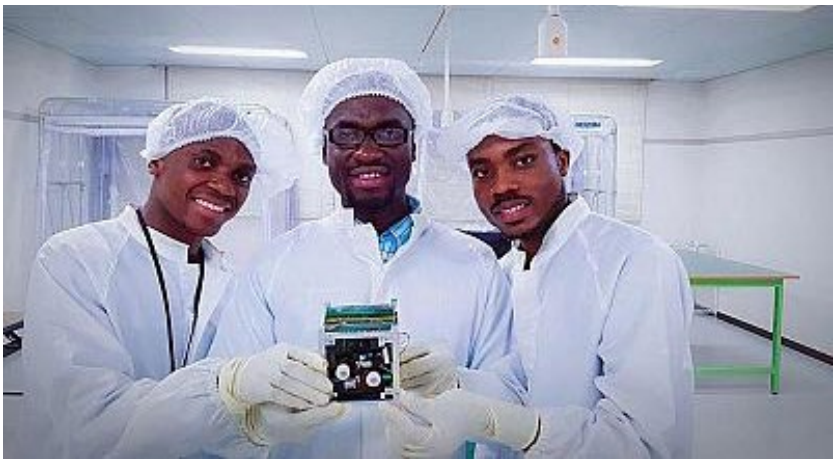
Twice this weekend, once on July 2 and again the day after, SpaceX cancelled the launch of an Intelsat satellite with less than 10 seconds left on the liftoff countdown. The company stated that a violation of abort criteria caused the delay. While the U.S. Air Force approved a third launch window for Wednesday evening at 7:35 p.m., SpaceX CEO Elon Musk said on Twitter that the company would first spend the Fourth of July holiday reviewing the rocket and launch pad systems. SpaceX will launch Intelsat 35e aboard a Falcon 9 rocket, but will not attempt a booster relanding due to the satellite's size and high orbital slot. Once aloft, Intelsat 35e will deliver C- and Ku-band services for wireless infrastructure, mobility, broadband, government and media customers in the Americas, the Caribbean, Europe and Africa. It will occupy an orbital slot at 325.5 degrees east, replacing Intelsat 903.

SSL Locks in First Operator for Satellite Servicing

SIS, a new U.S. company that will commercialize SSL's satellite servicing capabilities, has announced it signed its first customer, SES. Finance Technology Leverage (FTL) and SSL MDA Holdings will maintain majority and minority ownership stakes in SIS respectively, with financing for the venture expected to conclude in the coming weeks. Under a contract valued at $228 million, SSL is currently developing the vehicle SIS will use for its services in conjunction with the Defense Advanced Research Projects Agency (DARPA), as part of its Robotic Servicing of Geosynchronous Satellites (RSGS) program. The resulting vehicle will roam the Geosynchronous Earth Orbit (GEO) belt to inspect, repair, augment and refuel satellites in their orbital slots. According to Steve Oldham, SSL's senior vice president of business development who will also run SIS, the service will be akin to "AAA in space." Including contributions from U.S. private equity companies, total investment in this project between all parties involved is in the region of $200 million, Oldham said. He is, however, very optimistic about the potential Return on Investment (ROI) due to SIS' sustainable business model, he said — "an architecture where we launch one spacecraft that can service many clients per year." "That gives you a one-to-many relationship between your ability to generate revenue and the cost of constructing your asset," he explained. Oldham believes the value proposition for the service is fairly straightforward from the operators' perspective. A gap lies between the capital expenditure of building and launching a new satellite and the cost of having an older satellite refueled, relocated or even potentially enhanced. SSL, as well as other manufacturers developing similar capabilities such as Orbital ATK, see a massive opportunity in exploiting that gap. According to Oldham, the satellite industry spends more than $6 billion a year putting new infrastructure into GEO, including building satellites, launching them and insuring the launches. While other infrastructure verticals divert a fair amount of that expenditure to inspection, repair and so on, space diverts essentially nothing because historically such maintenance has lied beyond our technological capabilities. With this new service, SIS hopes to capture a small percentage of that $6 billion market. "We take 10 percent, that's fantastic. We take 5 percent, that's fantastic," Oldham said. "We don't have to take a significant amount of the expenditure to make this a very attractive business plan." Oldham sees this as a net benefit for the space sector, as both government and commercial operators will have the opportunity to optimize their capex and be more flexible in their satellite designs. One of the concepts SIS is discussing with potential customers is changing the architecture of satellite designs to a more modular approach. Such a capability would enable satellite operators to add new solar arrays, new antennas, or enhance processing power by adding transponders, according to Oldham. "What we see here enabled by satellite servicing is a future where satellites become platforms. Individual enhancements are brought to those satellites," he said. "That changes the model of space from where we are today." SIS is now wading through the regulatory process to get the licenses it needs to bring this service to the market. Oldham previously identified this as a potential challenge — as there is no single regulatory body in charge of satellite servicing due to its novelty — but said he does not foresee any long-term roadblocks. "If you have a camera in space, then you need NOAA approval. And of course we have cameras because we need them for rendezvous and inspection. If you want to move around space, you need approval for the frequencies that you use, and that goes through the International Telecommunication Union (ITU) and the Federal Communications Commission (FCC) for U.S.-registered spacecraft like ours," he said. "It's not a short process but we don't expect any hurdles." SIS is forging ahead with its plans despite the ongoing lawsuit between Orbital ATK and DARPA. Orbital ATK alleges DARPA violated National Space Policy by subsidizing development of new technology that the private sector could otherwise provide. The lawsuit remains mired in the courts though, as DARPA filed a motion in April to dismiss the case due to lack of claims and subject matter jurisdiction. Regardless of the legal situation, SIS has its sights set on 2021 for the first launch of its satellite servicing vehicle. Oldham said the company will be ready to bring its services to market once it completes series of demonstrations for DARPA that year.

Ghana Launches its First Satellite into Space

Ghana has successfully launched its first satellite into space, reports BBC. GhanaSat-1, which was developed by students at All Nations University in Koforidua, was sent into orbit from the International Space Centre. Weighing 1,000 grammes, the Cubesat satellite will be used to monitor the country's coastline as well as helping Ghana enjoy the full benefits of satellite technology. The satellite, which was built by students at the college, is equipped with low and high-resolution cameras.



Inmarsat Pursues Global Demand for In-Flight Connectivity

To capitalize on the swell of demand for In-Flight Connectivity (IFC), Inmarsat is tackling aviation on two fronts simultaneously by introducing services for both passengers and the cockpit. According to Frederik van Essen, Inmarsat Aviation senior vice president for strategy and business development, the company's investment in these new services is largely supported by the new demand emerging in regions outside of the United States. Traditionally, the United States has led in adoption of new connectivity platforms, but now Europe and the Middle East are rapidly catching up, Van Essen has observed. "In Europe it's a question of two or three years and most aircraft will have some form of connectivity," he said. "The rest of the world is not far behind. Asia-Pacific is really coming up and we see similar things happening in South America." Inmarsat's recent contract wins reflect this budding global interest, Van Essen said, including GX Aviation agreements it signed with Qatar Airways and Colombian airline Avianca. For Europe in particular, where the adoption rate is arguably the strongest, Inmarsat is proceeding on a joint venture with Deutsche Telekom to develop the European Aviation Network (EAN), a system that combines satellite and 4G LTE connectivity. Deutsche Telekom is supplying more than 300 ground towers, while Inmarsat just launched a new S-band satellite for the service, Inmarsat S EAN, this week. Due to the hybrid nature of EAN, passengers will be able to experience seamless Wi-Fi connectivity across the 28 European Union states, according to Inmarsat. In March, Inmarsat announced that International Airlines Group (IAG) — which comprises British Airways, Iberia, Air Lingus, and others — will be the first customer to leverage the network. IAG plans to equip more than 300 aircraft with the proper terminals and aims to have 90 percent of its short-haul fleet equipped by early 2019. According to Van Essen, Inmarsat S EAN is one of the first steps in Inmarsat's strategy to bolster capacity in areas with high bandwidth requirements, such as high-traffic flight paths and airport hubs. Inmarsat has already pursued global mobility coverage with its Global Xpress fleet comprised of four Ka-band satellites. Now, Van Essen said the company is setting out to "put satellite capacity where it counts." Although Van Essen said Inmarsat is not entirely close-minded to the idea of operating non-Geostationary Earth Orbit (GEO) satellites, he remains unconvinced they are the most efficient way to provide capacity for the mobility market. "The problem with these constellations is that they are not very efficient," he said. "Satellite utilization plays a big role in these non-GEO constellations. When these satellites are flying over remote areas they are not used. For mobility it's not an easy business case to make." From an economic perspective, he said, it's instead more sensible for Inmarsat to concentrate high throughput beams over smaller regions, thus maximizing bandwidth speeds and guaranteeing the data rates the company promises its customers. Like other operators, Inmarsat is testing different retail strategies to make its new services as accessible as possible for airlines. "The market is still somewhat immature so a lot of airlines have different wishes. We're trying to accommodate that practically through different business models," Van Essen said. For example, Inmarsat offers deals where it will shoulder the equipage costs for aircraft, then jointly market the service to passengers and split the revenue with the airline. The airline then pays Inmarsat back for the investment over time. This strategy allows Inmarsat to lock in its customer base while also helping low-cost airlines postpone their capital investments. "At the moment there's still a lot of experimentation going on," Van Essen said. While airline passengers are growing more vocal about their connectivity needs, airlines too have expressed a strong desire to use connectivity to streamline operational efficiencies. To meet that demand, Inmarsat is launching its SwiftBroadband-Safety service in the second half of this year, once the Federal Aviation Administration (FAA) grants it approval for trans-oceanic use. Van Essen said the "sharpening up [of] the regulatory environment" is one key enabler on the operational side, as organizations such as the International Civil Aviation Organization (ICAO) are pushing airlines to improve their tracking capabilities. Advancements in technology are opening new doors as well, enabling possibilities such as more efficient flight paths "so we can fit more aircraft into the same amount of airspace, which should help relieve congestion," he said. "You can imagine that, when you do that, all the safety margins get slimmer, so the dependability of their systems needs to be really high." With both SwiftBroadband-Safety and EAN near on the horizon, 2017 marks a pivotal year for Inmarsat. Van Essen is optimistic the demand trends he has observed will continue into the future, and expects Inmarsat to further extend its backlog of aviation customers. "So far, everything is on track," he said.

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ARTICLE

Telcos' Key Role in Elevating the Quality of Life of Internally Displaced People

Africa today hosts 30% of the world's forcibly displaced populations that have been affected by crises; whether natural crisis or armed conflicts, amounting for a total of 19.6 million. Internally Displaced People (IDPs) who were forced to flee their residences and relocate to another destination within their country's borders, are left behind with basic life support services such as food and shelter in rescue camps developed by humanitarian organizations, but are deprived from access to healthcare, education or any other services.

ICT has the power to transform the lives of IDPs immensely, as connectivity is considered a key factor for development and should be comparable to food and shelter in supporting crisis affected communities.

ICT has the power to transform the lives of IDPs immensely, as connectivity is considered a key factor for development and should be comparable to food and shelter in supporting crisis affected communities. With 8 out of 10 people in Africa owning a mobile phone, ICT can be leveraged to benefit affected communities in various ways; from helping IDPs communicate and reconnect with their loved one and conducting emergency calls for help, to accessing vital health and security information and obtaining financial services / monetary aid from humanitarian organizations.

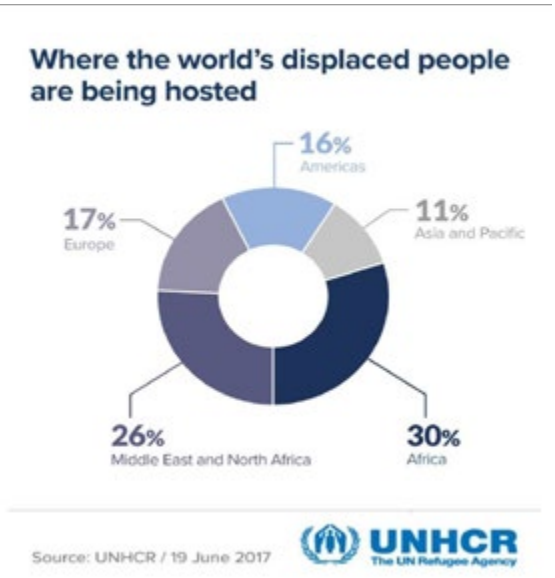
Technology is also considered a key enabler for the UN's 17 Sustainable Development Goals (SDG), as the provision of ICT enabled solution such as e-health, e-education and smart metering will directly address other humanitarian needs and ensure the attainment of clean water and energy, good health and wellbeing, quality education and more SDG goals that would elevate people's quality of life.

With that said, Telcos are therefore positioned at the forefront of providing ICT for development by leveraging their heavy infrastructure and their nation-wide network coverage to provide core voice and data services. Additionally, Value Added Services like Mobile Money can also play a major role in providing financial services to IDPs and thus addressing financial inclusion in remote affected areas.

Yousra Sami Salim
Strategy and Business Development Specialist
Expresso Telecom Group (Subsidiary of Sudatel Telecom Group)

Successful ICT for development initiative are emerging and gaining substantial traction in developing countries, including; the GSMA's Disaster Response Program, which provides effective and coordinated support to humanitarian responders and disaster affected communities through partnerships with NGOs, governments and MNOs. Another distinguished program is Refunite; the world's largest global family tracing platform, which supports in reconnecting displaced people with their loved ones in collaboration with the UN and Ericsson. Refunite typically penetrates new markets by developing partnerships with MNOs.

Sudatel Telecom Group; Sudan's national operator and the parent company to its international operating companies in West Africa, has been actively involved in this space and is categorizing its efforts in this field as a strategic group direction, as Sudan is currently hosting more than 3.7 million IDPs and is considered one of the top hosting countries in Africa. Further plans to extend its efforts to its footprint in Senegal, Mauritania and Guinea is also in the pipeline.



Following the resolution of the ongoing conflicts in Darfur, IDP camps were regarded as new villages for the displaced people, whereby many of which are covered with mobile networks. A pilot study was conducted in Darfur to study the mobile usage behavior of IDPs in pre-identified camps and results from the study have shown that mobile penetration is around 30% and half of which are data users, reflecting a positive indication of ICT literacy.

Consequently, a three phase strategy was formulated in this regard; starting with Connecting IDPs - through 3G network expansion, handset subsidies, Universal Service Fund support, and mobile awareness campaigns. Followed by Connecting with IDPs - through toll free emergency call center set up, IVR and SMS based health and safety awareness messages, voice and data bundle donation campaigns, and crowdfunding. Finally Transforming IDPs - through Mobile Financial Services, e-health, e-education and other digital services.

Moreover, as part of the strategic directions that we are pursuing, Sudatel group has become the latest signatory member of the Humanitarian Connectivity Charter; a GSMA program that improves access to ICT for IDPs in collaboration with the UN, by providing support to MNOs to improve preparedness and resilience among mobile networks.

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As a Telco, we stand a great chance in contributing to the social and economic development of the countries we operate in and therefore we are presented with a responsibility towards supporting the displaced segment of our populations. Moving beyond the traditional CSR activities that we are currently pursuing, active participation in humanitarian activities that would have a huge social and economic impact is deemed necessary.

However, Telcos, NGOs and local governments cannot implement truly transformational ICT for development initiatives independently. Therefore, a collaborative model in the form of a Public Private Partnership (PPP) is imperative to execute initiatives that would ensure sustainability and resilience of the developed humanitarian support programs and truly transform the lives of IDPs.

WHOLESALE NEWS

Bahrain TRA Launches Roaming Awareness Drive

Bahrain's Telecom Regulatory Authority (TRA) has launched its latest consumer awareness campaign, aimed at informing the public of the risks of roaming bill shocks and the options available to reduce mobile data and phone bills while roaming abroad. According to their latest consumer affairs roaming analysis report, TRA received roaming related complaints in 2016 amounting to more than BD40,000, making up only 6 percent of all complaints during the year, but affect consumers the most in terms of cost. "While the report points to our awareness efforts making an impact, the amount of disputed claims remain relatively high, which urges us to continue educating consumers on how to avoid roaming bill shocks in the first place," said Sheikh Nasser bin Mohamed Al Khalifa, deputy general director of TRA. "We've taken some significant steps in collaboration with our counterparts in the GCC to enable consumers with better roaming rates in the region by initiating the GCC roaming regulation which puts price caps on roaming charges. This has been in effect since April 2016 and costs will continue to decline every year until 2020 in favor of consumer welfare. The focus now is to make residents in the kingdom aware of how to avoid bill shocks, which this campaign will aim to achieve," added Sheikh Nasser. TRA advises consumers to ask their telecom providers what roaming charges to expect before travelling and what the charges will be at their destination. Consumers can either subscribe to data roaming add on packages, connect to Wi-Fi where possible, or purchase a local prepaid sim card in the country they are visiting in order to avoid bill shocks, TRA said. "It's important that consumers know how to take advantage of these reduced costs which is what TRA intends to accomplish with this campaign," said Mariam Al Mannai, manager of consumer affairs at TRA. "We highly encourage consumers in Bahrain to engage with us during the campaign and come to us with their questions. We have multiple communication channels including social media, email (consumer@tra.org.bh) and a dedicated hotline (81188)." Multiple channels will be used during the campaign to reach out to the community to enable consumers to be aware of the methods and mechanisms available so that they take advantage of roaming rates, add-ons and packages that are available in their travel destinations.

Spain Proposes 40% Cut in Mobile Termination Fees

Spain's communications regulator CNMC has launched a public consultation on its proposal to slash mobile call termination fees by up to 40 percent. Under the terms of its proposal, the fee charged by the country's mobile network operators or full MVNOs to any other operator for terminating calls on its network would be reduced from the current 1.09 eurocents a minute to the EC-recommended figure of 0.65 eurocents a minute irrespective of the origin of the call, the technology used or the form of interconnection. The existing rate has been in force since July 2013, with the CNMC arguing that cuts in the price of mobile termination rates have been shown to have a highly positive effect on competition and have led to increasing voice traffic on mobile networks. The watchdog added that calls originating from outside of the European Economic Area would not be subject to the price regulation and that, in view of market developments, it also proposed to declare all MNOs and full MVNOs as operators with significant market power (SMP) in the provision of voice call termination on their respective networks. Interested parties now have two months in which to submit their views before the CNMC sends its draft measure to the European Commission for approval.

Gamtel Retakes Direct Control of Sole International Voice Gateway; Drops Prices

Gambia's Ministry of Information & Communication Infrastructure (MOICI) has announced that from 7 July 2017 the government has reverted direct control of the country's sole international voice gateway to state-owned Gambia Telecommunications Company (Gamtel), having terminated the contract of intermediary company Multimedia Gateway International (MGI), which had been managing the gateway operations on Gamtel's behalf. The move enables Gamtel to directly collect 100% of international call termination fees from other operators. The MOICI's statement on 10 July 2017 said: 'Following the preliminary report of the ICT Taskforce recently instituted by His Excellency The President, Cabinet has decided to terminate the contract between the Government of The Gambia and MGI, to exclusively manage the International Gateway … Gamtel did a successful takeover and now all international calls to and from the Gambia are through the Gamtel gateway.' The full reason behind the decision was not disclosed, the FOROYAA newspaper writes. The release also announced an 18% (USD0.10) reduction in the international call termination rate, whilst promising that the government 'will continue to work with Gamtel and operators to further reduce the cost of communication.' Gambian President Adama Barrow took office in January 2017, having ousted autocratic former president Yahya Jammeh (now in exile), before appointing a new cabinet of ministers and launching a comprehensive audit of public servants to weed out corruption, with various reform projects subsequently launched, including the above-mentioned ICT Taskforce. TeleGeography notes that the new Gambian administration is negotiating with the IMF, the World Bank, the EU and the African Development Bank on financial support packages to improve stability, with the government committing to measures to reduce the national deficit, such as expenditure caps, debt consolidation, and reform of state-owned enterprises including Gamtel and its mobile subsidiary Gambia Telecommunications Cellular Company (Gamcel).

Airtel and Jio Trade Accusations over IUC Rules

The Telecom Regulatory Authority of India's (TRAI's) open house meeting to discuss interconnection usage charges (IUC) displayed the growing rift in the sector, with the incumbent cellcos on one side and newcomer Reliance Jio Infocomm (Jio) on the other. The Economic Times reports that the open house consultation saw Jio and Bharti Airtel trade accusations over the exploitation of the existing IUC system, and attempts to influence regulatory changes in their own favor – and to the detriment of the industry as a whole. The current IUC of INR0.14 (USD0.002) per minute includes a mobile termination fee and is intended to offset operational costs for network providers for cross-network calls terminating on their network. Jio has called for the regulator to lower the IUC to zero, noting that that the TRAI had made an assurance to that effect to the Supreme Court in 2011 but had failed to deliver on the promise. The cellco went on to accuse incumbents Airtel, Idea Cellular and Vodafone India, of over-charging for interconnection. Jio went on to dismiss claims from the trio that the IUC was needed to maintain and expand networks in rural areas, promising to provide 99% population coverage by the end of the year, regardless of the IUC level. Jio's stance was reportedly supported by a number

of MPs present, the politicians arguing in favor of the reduction as it would lower end-user costs and make services more affordable. Lok Sabha MP Ninong Ering was quoted as saying: 'When the TRAI has submitted before Supreme Court in 2011 that it will end termination charge on mobile calls in 2014, then it should have done it. At least now remove it so that burden on consumers is lowered and calls are made more affordable.' For their part, the incumbents sought an increase in the IUC to INR0.3 to INR0.4 per minute, citing the asymmetry in termination caused by Jio's offer of free calls to its consumers. According to the trio the current level of IUC is insufficient to cover the cost of receiving the 'tsunami' of calls from Jio subscribers. Responding to Jio's accusations that the trio had abused the IUC system to profit from terminating calls, Airtel said it was in fact losing INR5.5 billion per quarter thanks to the call asymmetry. Indeed, the operator claimed that Jio was looking to transfer its annual termination costs of between INR150 billion and INR200 billion to its rivals in an effort to throttle competition and establish a monopoly. 'In effect, Reliance Jio aims to build its business by getting a free ride on the highways built by Airtel and other operators,' commented Airtel's chief regulatory officer, Ravi Gandhi, adding: 'Their proposal … will further burden other operators and make them weak. At the same time, it allows Reliance Jio to continue with its strategy of predatory pricing and ultimately throttle all competition.'

Asia Pacific Lags Other Regions in LTE Data Roaming

Asia Pacific may be home to some of the world's most advanced mobile markets, but it lags other regions when it comes to LTE data roaming. This is according to research carried out by IPX provider Syniverse, which found that Asia Pacific accounts for only 6% of global LTE data roaming traffic. "Even as major operators in Asia invest in 5G, there is still much to do to expand LTE across Asia and connect the region to the rest of the world," said Mary Clark, chief corporate relations officer and chief of staff at Syniverse. Findings published by Syniverse at this year's Mobile World Congress show that globally, LTE accounts for 42% of inter-regional data roaming. In addition, Asia Pacific only accounts for 8% of inbound LTE data roaming traffic. By comparison, Latin America and North America account for 55% and 23% respectively. Europe accounts for 11%. "Enabling high-quality, reliable LTE roaming across Asia and the world is essential for mobile operators to drive revenue, growth and innovation," Clark said. Earlier this year at Mobile World Congress, Clark told Total Telecom that operators are missing a trick by not positioning themselves as the inbound LTE roaming partner of choice in their home market. Prioritizing an LTE experience is particularly important for South Korea and Japan, two markets that hope to showcase the latest mobile technology when they host the 2018 Winter Olympics, and 2020 Summer Olympics respectively. "Time is of the essence, as LTE roaming will be expected by visitors from around the world who travel to Asia for major events," Clark said.

Orange Ordered to Reduce Fixed Line Wholesale Rates

Poland's telecoms regulator, the Office of Electronic Communications (Urzad Komunikacji Elektronicznej, UKE), has ordered incumbent operator Orange Polska to reduce its wholesale rates for fixed telephony services. The watchdog says Orange's wholesale prices are anti-competitive and do not allow third-party providers any scope to compete with its retail tariffs. UKE's decision follows an investigation which was prompted by a complaint from Novum and the National Chamber of Commerce for Electronics and Telecommunication (Krajowa Izba Gospodarcza Elektroniki i Telekomunikacji, KIGEiT). Telecompaper reports that Orange has 30 days to produce a new reference offer.

FICORA Orders Telia to Reinstate Roaming Services for Legacy Customers

Finnish mobile operator Telia Finland has been ordered by the Finnish Communications Regulatory Authority (FICORA) to restore roaming services for customers on legacy contracts. The development comes after Telia last month advised subscribers still on tariffs that have not been sold since 2012 that they would no longer be able to use their service abroad from 14 June 2017. Now, the FICORA has directed Telia to reinstate roaming access in stages, with it obliged to offer voice and SMS by August 31, while data services must be offered again by October 31.

Indian Operators, Regulator Price Floor Talks Imminent

India's telecoms regulator will hold a meeting with the country's mobile operators on 21 July to hear their view on setting a minimum tariff for voice and data services, The Economic Times (ET) reported. The Telecom Regulatory Authority of India (TRAI) reportedly asked operators to present their detailed reasoning behind supporting a price floor as well as why they don't also support price caps. After Reliance Jio launched 4G services in September 2016, offering a series of generous free voice and data packages, some mobile players pushed the regulator to impose a minimum price to prevent companies offering tariffs which are lower than the cost of services. Current regulations require operators only to inform TRAI of their planned tariffs seven days before launch, so setting a floor price would be a major policy shift, ET said. Operators' balance sheets have been significantly impacted by a price war sparked by Jio's entrance. Bharti Airtel and Idea Cellular posted heavy losses in the January to March quarter. TRAI figures showed monthly ARPU in Q1 declined nearly 21 per cent from the previous quarter to INR83 ($1.29).

Dutch Regulator Beats Operators in Termination Tussle

Network operators in the Netherlands have lost their appeal over wholesale fixed and mobile call termination rates in the corporate appeals court, allowing the telecoms regulator, the Authority for Consumers & Markets (ACM), to go ahead and implement its latest rate determinations on 12 July without changes to new, existing or historical rates. In a long-running dispute, operators argued against the ACM's usage of the 'Pure-Bulric' method of calculating termination rates (as recommended by the European Commission) and instead proposed the 'Bulric-Plus' method (which accounts for a wider scope of network operating costs, thereby supporting higher wholesale fees), but the final court decision dismissed their claims.

Jamaica Delays Wholesale Rate Cuts

Jamaica's Office of Utilities Regulation (OUR) has postponed the introduction of lower termination rates for fixed line calls after an appeal by the island's incumbent operator, Flow. Last month the OUR ordered operators to slash the charge for terminating local calls from JMD41 (USD0.31) per minute to JMD25 on 1 July, with further cuts planned over the next few years, but the Jamaica Gleaner reports that Flow has petitioned the regulator to rethink the move, saying it would have a major effect on its cash flow. In a letter sent to the OUR, Flow said: 'The OUR does not appear to have given consideration to the magnitude of such sharp reductions on the immediate cash flow of the company, and the immediate and direct impact this reduction will have on working capital, investments incentives and potentially the long-term welfare of the society itself.' The telco is calling for the rate reductions to be implemented more gradually.

Regulators Reduce Roaming Fees Across Four Countries

Prices for customers roaming between Serbia, Montenegro, Macedonia and Bosnia and Herzegovina were reduced on July 1, in line with a 2014 agreement between the regulatory agencies of the respective nations. Serbian watchdog the Regulatory Agency for Electronic Communications and Postal Services (Regulatorna agencija za elektronske komunikacije i postanske usluge, RATEL) announced that retail prices for roaming within the region fell to EUR0.19 (USD0.22) per minute for outgoing calls, EUR0.05 per minute for incoming calls, EUR0.06 per SMS and EUR0.2 per MB for data usage. As noted by TeleGeography's GlobalComms Database, following the abolition of roaming frees across the EU in June this year, the telecom ministries of the four above-mentioned states penned a joint letter to the European Commission (EC), requesting that the measure be extended to their countries. Arguing their case, the missive pointed out that all four countries are currently seeking accession to the union and noted that the recent removal of roaming fees was applied to non-EU members including Norway, Iceland and Lichtenstein.

Russian Big Four Given Two Weeks to Cease National Roaming Charges

Russia's Federal Antimonopoly Service (FAS) has issued a warning to the 'big four' mobile network operators (MNOs) – MegaFon, Mobile TeleSystems (MTS), Beeline Russia (PJSC VimpelCom) and Tele2 Russia (T2 Mobile) – to cease charging users additional fees for using their mobile devices in Russian regions outside their home region (or 'national roaming' charges) within 14 days. In the notice posted on the FAS website yesterday (17 July, but with a 14 July date of issuance) the FAS stated that the MNOs' voice, data and messaging tariff packages violated Paragraph 6 of Part 1 of Article 10 of the Law on Protection of Competition. The comptroller added that its analysis showed prices for telecommunications services (calls/SMS to numbers within and outside the region of the user's current location, as well as mobile internet/data services) should not differ from prices charged in the user's home region when travelling to other regions of the Federation, as the cost difference is 'not technologically justified'.

TECHNOLOGY NEWS

Arqiva and Samsung Launch Live 5G FWA Trial in London

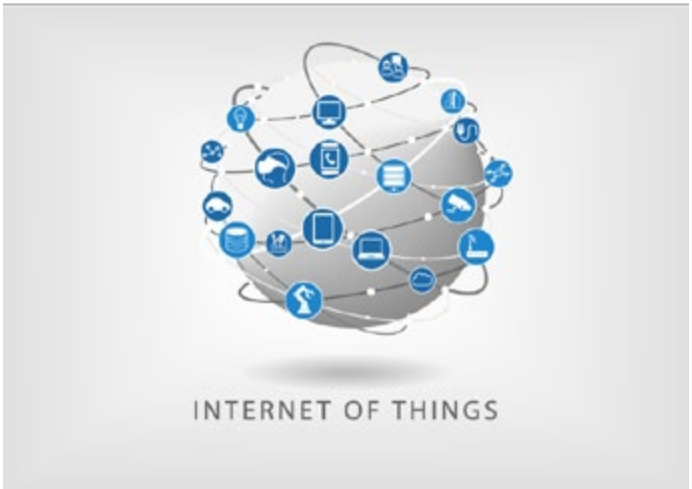
Communications infrastructure company Arqiva and Samsung Electronics have announced what they claim is the first field trial of 5G fixed-wireless access (FWA) technology in the UK and Europe, carried out in central London. A press release regarding the development notes that the trials are powered by Samsung's 5G network solution and customer premises equipment (CPE), and uses Arqiva's 28GHz millimeter wave (mmWave) spectrum. According to the companies, the primary aim of the trial is to 'demonstrate the stability of the FWA service, and its potential as a fast-to-market and cost-effective alternative to fiber for connectivity to homes and businesses'. It is claimed that the system has already established a stable two-way mmWave link with downlink speeds of around 1Gbps at the CPE, though as the trial progresses the duo have said they hope to further maximize performance capability. Initially the trial, which will run for four months, is being conducted using a Radio Access Unit located on the rooftop of Arqiva's Fitzrovia office, with this wirelessly linking to a router inside its nearby headquarters. Samsung's system, which implements intelligent beam-forming technology and high-frequency mmWave spectrum, then provides high bandwidth connectivity. There are, however, plans to extend the trial's coverage to additional nearby buildings over its duration, the companies confirmed.

Qualcomm Lobbies for 5G Spectrum, Sets Foundation with Gigabit LTE

Qualcomm is encouraged by the FCC's continued work to make more spectrum available for Gigabit LTE and 5G, and it's working diligently to see the first commercial launches of 5G New Radio (NR) starting in 2019. That's the message from Qualcomm Senior Vice President of Spectrum Strategy and Technology Police Dean Brenner, who wrote in a blog post about his recent visit to Capitol Hill with colleague and Vice President of Government Affairs Alice Tornquist. They attended an event sponsored by the Congressional Spectrum Caucus, a bipartisan group intent on finding ways to increase access to more spectrum. Congressman Brett Guthrie (R-Kentucky) and Congresswoman Doris Matsui, (D-California) established the group in 2014 and more recently co-authored HR 1888, the Federal Spectrum Incentive Act, a bill that would provide incentives for U.S. government agencies to consolidate their use of spectrum so that more spectrum can be freed up for commercial mobile broadband. The U.S. was successful in identifying federal spectrum in the 3.5 GHz band, which is now being set up as a shared use band called Citizens Broadband Radio Services (CBRS). The effort dates back to at least 2010, when the National Telecommunications and Information Administration (NTIA) identified 3550-3650 MHz as one of several federal bands that could be made available for commercial wireless broadband. Spectrum Access System (SAS) administrators are being set up to manage the sharing of spectrum at 3.5 GHz in the U.S., but efforts are also underway to change the rules, which some fear could affect the rollout. Meanwhile, Qualcomm is doing what it can to get spectrum in the pipeline—like 600 MHz—put to good use as soon as possible. The 600 MHz auction wrapped in April and many observers assumed it would take a while—maybe even years—to get it cleared of broadcasters. But T-Mobile, the biggest bidder, expects to reap the benefits of its 600 MHz spectrum this year, and it can thank Qualcomm in part for that. As Brenner notes in his blog, a key part of commercializing 600 MHz for LTE is to support it in chipsets, and Qualcomm Technologies' Snapdragon X20 LTE modem and RF transceiver are designed with 600 MHz capability; it also supports the band through the Snapdragon X16 LTE modem. "Our advanced RF Front End (RFFE) technologies, such as dynamic antenna tuning, are designed to minimize the OEM design impact in extending their devices' frequency range to operate in the 600 MHz band without having to increase antenna size or compromise RF performance," he wrote. "With broad industry support, we are working closely with operators and OEMs to enable early launches of 600 MHz-capable 4G multimode/multiband devices." T-Mobile CTO Neville Ray tweeted July 17 that devices from two OEMs—Samsung and LG—will support 600 MHz this year. In fact, he also said T-Mobile is rolling out 600 MHz so fast, it's basically condensing a two-year process into six months.

Korea Doubles Down on NB-IoT

Two South Korean mobile operators – KT Corp and LG Uplus – launched commercial low power wide area (LPWA) services using NB-IoT technology, taking the total number of LPWA deployments based on standardised cellular technology to 11 networks by nine operators in six countries. In a blog post, the GSMA noted that South Korea's second largest operator KT launched NB-IoT nationwide after trailing the service in Seoul and other cities in April. Meanwhile, number three player LG UPlus also rolled out commercial NB-IoT networks nationwide in 85 cities, "working predominantly with private gas and power companies at launch". There's no word yet on number one operator SK Telecom (SKT), which has already deployed a LPWA network based on non-cellular tech offering LoRa. Earlier this year SKT told Mobile World Live it has not ruled out a move to NB-IoT. The double activation marks further momentum for NB-IoT, which is already used for live networks in China, Germany, the Netherlands and Spain. NB-IoT is one of three technologies the GSMA is touting as an enabler of LPWA networks (the other two are LTE-M and EC-GSM-IoT). All three were standardized by the 3GPP last year and are playing catchup with unlicensed LPWA offerings already established in the market, such as Sigfox and LoRa. US operators AT&T and Verizon have both deployed



LTE-M. It is expected that mobile operators will use NB-IoT and LTE-M networks to support mass-market IoT applications such as smart meters, asset tracking, smart grids and city parking. Supporters of the cellular LPWA technologies argue they are low cost, support long battery lives and can operate in remote locations.

ADTRAN and DT Test New G.fast Standards

Networking solutions provider ADTRAN has announced the start of lab tests of the new 212MHz G.fast standard and coordinated dynamic time allocation (cDTA) in partnership with Deutsche Telekom (DT). The German telecoms company is evaluating these technologies using fiber-to-the-building (FTTB) deployment models, allowing the use of existing cable infrastructure within the home. The 212MHz G.fast standard doubles the usable spectrum to allow Gigabit rates over a single copper pair, while cDTA improves G.fast upstream performance by four to five times by dynamically balancing upstream and downstream capacity to match residential traffic patterns in real-time. cDTA also expands the applicability of this feature to existing phone wiring, thus covering nearly all residential and commercial premises. 'Operators in highly competitive, dense urban or urban environments are challenged to extend Gigabit services due to the time and cost that can be associated with pure play FTTH techniques,' said Jay Wilson, senior vice president at ADTRAN, adding: 'With G.fast innovation, operators, such as DT, can significantly accelerate Gigabit Society goals by launching Gigabit services over their existing infrastructure dramatically reducing subscriber disruption.'

Microsoft Unveils 'TV White Spaces' Rural Broadband Vision

US technology giant Microsoft has unveiled an ambitious plan to improve broadband services in rural America, using so-called 'TV White Spaces' spectrum, which it defines as unused frequencies in the UHF television bands. Via a series of twelve pilot projects, covering Washington, North Dakota, South Dakota, Wisconsin, Michigan, New York, Maine, Arizona, Kansas, Texas, Georgia and Virginia, Microsoft hopes to lay the groundwork for a solution it hopes will 'eliminate' the digital divide within five years. In order to implement its plans, Microsoft hopes to invest in a number of partnerships with telecoms companies via its Microsoft Rural Airband Initiative. Ultimately, the technology firm seeks to bring broadband connectivity to two million under-served people by 2022. In an official blog post, chief legal officer Brad Smith commented: 'Our goal is not to enter the telecommunications business ourselves, or even to profit directly from these projects. We will invest in the upfront capital projects needed to expand broadband coverage, seek a revenue share from operators to recoup our investment, and then use these revenue proceeds to invest in additional projects to expand coverage further … As a country, we should not settle for an outcome that leaves behind more than 23 million of our rural neighbors.'

Telstra Pushes LTE to "Be More 5G Like"

Hakan Eriksson, CTO of Telstra, told Mobile World Live the operator is pushing gigabit LTE to get the most out of its 4G network and "be more 5G-like before 5G comes". "In principle, the idea is to improve 4G as much as you can and be ready to introduce 5G when it becomes available, but don't wait for 5G, regardless of if it's for high bit rate or Internet of Things applications," he said, adding: "You can still do a lot with 4G." He emphasized the speed the consumer gets is the interesting thing and it doesn't really matter if it's over a 4G network or a 5G network. While 4G started out as a mainstream technology to increase bit rates, Eriksson explained over time the technology also moved the other way, into very segmented NB-IoT applications: "LTE is very flexible, from gigabits all the way down to kilobits." Telstra, Australia's largest mobile operator, holds the necessary spectrum for carrier aggregation across multiple bands to enable gigabit speeds, which it demonstrated in January with Ericsson, Netgear and Qualcomm. The operator deployed gigabit LTE in some of Australia's larger cities, but Eriksson noted the service only runs on mobile Wi-Fi (Mi-Fi) devices as smartphones don't yet support the technology. The operator conducted 5G tests in September 2016, and Eriksson said it plans additional tests in 2018 as the specifications become more mature.

AT&T Hails IoT as the "Fourth Wave of Opportunity"

The internet of things puts mobile operators "in an innovation conversation", believes Chris Penrose, head of IoT at AT&T, as he outlined the US operator's global commitment to the segment. Speaking to Mobile World Live in Shanghai, Penrose said AT&T saw IoT as the "fourth wave of opportunity for operators to create new revenue streams", by bringing full end-to-end solutions to partners, and diversifying away from offering only connectivity. He stated operators are leveraging IoT by positioning themselves as innovators to "help other businesses really advance where they need to go". "We really do look at it by identifying the problem and look at how we can bring solutions for efficiency, drive out costs, or create new revenue streams for those that we work with," he said. In terms of AT&T's US IoT developments, the operator already launched a nationwide low-power LTE-M network, and it is now looking at a launch in Mexico. It also often touts its credentials as the world's biggest connected car backer. Penrose said the company's wider efforts from an IoT perspective are "truly global", and it was committed to working with companies all over the world, across every single vertical. "Our customers are beginning to take their concepts, and what they've been prototyping, and now they are asking how to scale these things all over the world and do it in every single vertical," he said. Penrose also said transportation was the biggest vertical in IoT at the moment, and he also opened up on the potential of "connected dirt". Click here to watch.

MegaFon Gets Pilot 5G Frequencies; Tele2 Demos 5G Capabilities

Russian cellco MegaFon has been issued a trial allocation of 5G frequencies for operating pilot services during next year's football World Cup being hosted by the Federation. The State Commission for Radio Frequencies (SCRF) has confirmed the allocation of spectrum within the 3400MHz-3800MHz band for 5G 'fixed communications' and frequencies within the 25250MHz-29500MHz range for 5G mobile network deployment, TDaily reports. All the major Russian cellcos are currently testing the capabilities of pre-5G/5G technologies, including Tele2 Russia, which yesterday highlighted its latest network laboratory demonstrations under the framework of its 5G cooperation agreement with Nokia signed in 2016. One 5G demo involved controlling unmanned vehicles, whilst Tele2/Nokia also presented a fully automated surveillance and intelligent perimeter protection system. Equipment used included Nokia's AirFrame/Mobile Edge Computing systems, and Nokia AirScale technology operating in the 4.5GHz band, utilising an 8×8 MIMO configuration (using eight base station antennas).

LTE Set to Become the Dominant Mobile Access Technology

MOBILE subscriptions in the Asia Pacific (APAC) have been steadily growing. From the end of 2016 to 2022, it is forecast that mobile subscriptions in the region will increase at a compound annual growth rate (CAGR) of almost 3%, reaching around 1.3 billion subscriptions, according to the latest Ericsson Mobility Report. At the end of 2016, around 3.2 billion subscribers out of the world's total population of 7.4 billion had access to the internet via mobile broadband technology. It is forecast that an additional 2.6 billion subscribers will have mobile broadband internet access by 2022. This corresponds to an average of more than one million new mobile broadband subscribers being added every day through to the end of 2022. Key drivers behind this subscriber uptake are a growing young population with increasing digital skills, and decreasing smartphone prices, as well as continued deployment of 3G and 4G mobile broadband technologies in developing markets. In Q1 2017, China, India, Myanmar, Indonesia and Bangladesh continued to be among the top 10 countries globally for net mobile subscription additions, with net additions in Indonesia reaching more than 10 million after India (+43 million) and China (+24 million). Behind Indonesia are Pakistan (+5 million) and Nigeria (+3 million). "Indonesia is growing in a positive way compared to a few years ago. This growth is definitely affected by the Indonesian macroeconomic sector and diverse offerings from mobile service providers," said Ericsson Indonesia and Timor Leste vice president, head of Network Product Unit Ronni Nurmal (pic) in a media briefing recently. Smartphone subscriptions lead the growth in data traffic. At the end of 2016, there were 3.9 billion smartphone subscriptions. The majority or 90% were for 3G and 4G. By 2022, the number of smartphone subscriptions is forecast to reach 6.8 billion and almost all of these will be for mobile broadband. GSM/EDGE still constitutes the largest category of mobile subscriptions. However, LTE is anticipated to become the dominant mobile access technology in 2018, and will likely reach five billion subscriptions by the end of 2022. In Indonesia, LTE subscriptions will grow significantly with a projected 65% of total mobile subscriptions by 2022. In 2016, smartphone data traffic reached 2.1GB per month globally, and 1.8GB regionally. The number is predicted to rise to 12GB per month both globally and regionally in 2022. Total mobile data traffic grew by 70% between Q1 2016 and Q1 2017 dominated by video traffic. "We also foresee 75% of growth in video traffic by 2022 due to the habit of users now who watch video on their devices for learning purposes," Ronni said. Early 5G deployment is anticipated in several markets. In 2022, the number of 5G subscriptions is forecast to surpass 500 million. A 5G subscription will require a device capable of supporting 5G services and use cases, and that is connected to a 5G-enabled network. "5G will enable Internet of Things (IoT) to grow. Perhaps by 2020 or 2021, 5G connectivity will come into Indonesia. We have to learn

from other countries," Ronni adds. Ronni also explains that the market in Indonesia remains dominated by overseas mobile applications as only 12% out of the total 100 apps were local or regionally made. The popular local or regional apps include banking, dictionaries, mobile service providers, transportation, travel, news, and shopping. "This will give an opportunity for local app developers to create more apps that will be useful by featuring local content to attract the local ecosystem," he comments. In mature mobile broadband markets, consumers typically expect a time-to-content of four seconds or less, which requires a minimum downlink speed of roughly 4 Mbps. In the past few years there have been steady improvements to network performance in most countries in the region, to the point that 70% of the analyzed speed test samples in all those countries achieved at least 1 Mbps downlink speeds. While this speed is not sufficient for a time-to-content of four seconds or less, it is expected that this will improve as networks continue evolving to higher speeds thanks to LTE deployment. Ericsson conducted an analysis on Ookla Speedtest Intelligence that shows that the probability of a user achieving the minimum required network speed in web browsing, video streaming and loading HD video will be 83%, 51%, and 31%. "Indonesia is in an average state in terms of app coverage measured by network speed in the region. Mobile broadband operators play a crucial part in optimizing the network by applying analytics," Ronni explains. The rapid growth in mobile subscriptions in LTE and early stage of 5G will boost a variety of IoT offerings according to this report. Around 29 billion connected devices are forecast by 2022, of which around 18 billion will be related to IoT. Connected IoT devices include cars, machines, meters, sensors, point-of-sales terminals, consumer electronics and wearables. Between 2016 and 2022, IoT devices are expected to increase at a CAGR of 21%, driven by new use cases. "The 30% growth of wide area IoT using cellular devices will standardize the IoT ecosystem. There is a potential for Indonesia to develop the technology if the ecosystem can deliver growing results depending on use cases and business models. "Regulators on the other hand can implement the technology to increase penetration rate of IoT in Indonesia," Ronni says. Mobile service providers addressing IoT opportunities for enterprise segments should thoroughly assess their business opportunities and connectivity requirements in order to deploy the correct network infrastructure, both short range IoT and 5G connectivity. According to Ronni, there are three factors for mobile broadband operators to implement digital technology in their businesses. "Networks need to evolve from time to time in every industry. Along the way, mobile service providers will need to prepare a roadmap and cope with the technology," he says. There is also another way for providers to play a part. They can differentiate offerings through IoT. "Operators can become IoT service providers, service enablers, or service creators to give connections to users," he adds. Collaboration between the public and private sector is also needed in order to increase tech development. "Every sector will complement each other and it also depends on the capability of each industry. The unique points of Indonesian industry will benefit its own ecosystem," he concludes.

Swisscom Tests 10Gbps 5G Prototype

Swiss state-owned full service provider and mobile market leader Swisscom has unveiled plans for the development of its 5G network and Internet of Things (IoT) services. Regarding the former, Swisscom has carried out field tests in Zurich of a prototype 5G system developed by Swedish vendor Ericsson. The test used a single base station and two terminal devices, and achieved peak download speeds of 10Gbps. Meanwhile, in May this year the cellco began allowing customers to experience '5G' speeds of 800Mbps – achieved through combining four different LTE frequencies – at its store in Zurich. Swisscom plans to deploy the demonstration system to 15 additional stores by the end of this year. Commenting on the company's plans, CTO and CIO Heinz Herren was quoted as saying: 'Swisscom is making targeted investment in the development of 5G to ensure we continue to provide our customers with the best mobile communications experience in Switzerland in future. We are already the first provider in Switzerland to present 5G applications with our partner Ericsson. They establish the foundation for the further digitisation of Switzerland.' Swisscom is planning to launch commercial 5G services in 2020, at which date it will deactivate its legacy 2G/2.5G systems. Elsewhere, Swisscom introduced Network Function Virtualization (NFV) in May this year and plans to carry out field trials of network slicing in 2018 alongside its partner Ypsomed. The operator noted that network slicing would ensure that applications used in industrial communications – such as by the emergency services – are guaranteed network resources, 'as their data traffic is separated from the general data stream on the mobile network.' Finally, Swisscom's low power, wide area (LPWA) LoRaWAN-based network for IoT services (which uses unlicensed spectrum) will be extended to cover 90% of the population by the end of 2017, and tests of two cellular licensed spectrum-based LPWA IoT technologies – Narrow Band IoT (NB-IoT) and LTE Category M1 (Cat-M1 or LTE-M) – are scheduled to start this year, with a commercial launch planned for 2018.

Eurona, Huawei to Deploy 'Virtual Fiber' in Rural Areas Using 3.5GHz Band

Spanish telecoms provider Eurona has revealed plans to introduce 'virtual fiber' download speeds in rural areas via 3.5GHz time division duplex LTE (TD-LTE) technology. Chinese equipment vendor Huawei will take charge of the rollout, which will reportedly incorporate 8×8 multiple-input, multiple-output (MIMO) technology. TeleGeography notes that the introduction of 8×8 spatial multiplexing was one of the key facets of the standardization of LTE-Advanced (LTE-A) technology. Eurona and Huawei first collaborated on a rural TD-LTE solution in 2015. Going forward, the two parties claim to be developing a 4.5G pilot project.

Egypt Launches First Egyptian-Made 4G Mobile

Egypt got well prepared for the wireless frequencies needed for telecommunications companies in the country to deliver 4G mobile broadband networks, a key step in the long-delayed introduction of high speed telecoms services. The country sold four 4G licenses in 2016 as part of a long-awaited plan to reform the telecoms sector and raise dollars for stretched government finances. The country's three mobile operators – Vodafone Egypt, Orange and Etisalat – acquired licenses. On this note, the first-ever Egyptian-made mobile phone was unveiled on local TV show 'Sabah Al Khair ya Masr'. The Egyptian Minister of Communication and Technology Yasser al-Qady unveiled the Egyptian-made 4G phone, expressing his congratulations to Egyptians and asserting that this cell phone is enhanced by great capabilities and will be sold at a competitive price. Al-Qady added that the government is currently following a strategy based on affording governmental services through following high technological standards. He further noted that the government is also building technological areas in different governorates to facilitate services provided to citizens, maintaining that these areas are being built on orders from President Abdel Fattah al-Sisi. According to reuters, Egypt's state-owned landline monopoly Telecom Egypt said in July it would offer 4G services within a year of obtaining frequencies.

ZTE and Unicom Complete 5G NR Field Trial

China Unicom and domestic vendor ZTE have completed a successful field test of 5G New Radio (NR) technology, achieving peak download speeds of 2Gbps. The trial used a pre-commercial 5G base station using 100MHz of bandwidth in the 3.5GHz frequency band, massive multiple-input, multiple-output (Massive MIMO), low-density parity check (LDPC) and other key 5G technologies.

China Expected to Lead 5G Deployment as Trials Pick Up Pace

As expected, 5G is making all the news at this week's regional Mobile World Congress event in Shanghai, which opened today. Also perhaps to be expected, a new report from the GSMA (the event's organizers) and the China Academy of Information and Communications Technology (CAICT), concludes that Chinese operators are on track to launch commercial 5G networks by 2020 and are expected to establish China as the world's largest 5G market by 2025. Mobile operators in China are implementing a multi-phase testing period for 5G networks from now to 2019 before planning to launch commercially in 2020. The new report forecasts that 5G connections in China will reach 428 million by 2025, accounting for 39 per cent of the 1.1 billion global 5G connections expected by that time. However, the rate of 5G network rollout and adoption in China is also expected to be slower than it was for 4G. It is also expected that 5G investment by operators in China will follow a more gradual path and over a longer timeframe than 4G, roughly seven years, from 2018 to 2025, with capex not expected to account for more than 25 per cent of operator revenue prior to commercial launch. So far so good. The report then suggests that the first 5G smartphones are likely to be priced at a premium to 4G models, as they may require "a 4K or 8K screen". Really? There is currently zero need for a 4K smartphone screen (and there is only one commercial model that has one) due to the screen size vs viewing distance factor, and having a 5G network is not going to change either of those. And don't get us started on 8K. As its MWC, albeit a regional MWC, expect plenty of demos and announcements. First on the list is what is claimed as the world's first 5G core network prototype built on a service-based architecture (SBA), demonstrated by China Mobile and Huawei. China Mobile says it has led the development SBA and that it now has extensive support from the industry, especially carriers. It certainly has the support of China's IMT-2020 Promotion Group, which is pushing it to be standardized as part of the 3GPP's 5G specification. SBA defines core network functions as loosely coupled, combinable services that can be flexibly scheduled based on standard interface protocol, rather than the more traditional closely coupled "black box" approach. The prototype features key 5G core network functions, including service framework (service registration, discovery and authorization), service operations (deployment, upgrade, and capacity expansion and contraction), and service-oriented 5G basic business processes (device registration, connection establishment and release). "The SBA shows that 5G is a truly Cloud Native design," said Yang Zhiqiang, Deputy General Manager of China Mobile Research Institute. "We will work to reduce its complexity, and look forward to working with all industry players to accelerate completion of international standards and product R&D." China Mobile has also cooperated with fellow Chinese vendor ZTE to showcase a 5G eMBB scenario in a live field test in Guangdong, at the Guangzhou University Town. ZTE used its 3.5GHz New Radio base station and achieved single-user download speeds of 2Gbit/s using 100MHz of spectrum. The partners will shortly commence multi-site networking pilots to test wireless coverage, throughput, mobility, delay and other 5G network indicators. "A multitude of key technologies, solutions, and network models will be verified on the pilot network," said Bai Yanmin, general manager of ZTE's TDD and 5G products. "Through detailed field tests, we can discover and solve the potential problems, and gather more experience for the large-scale commercial use of 5G in the future." Not quite 5G, but during MWC Nokia will be showcasing its AirScale base station working with its so-called 4.9G technology to reduce network latency to less than two milliseconds, by using a feature that allows transmission time intervals to be shortened by 86 per cent. Nokia says this will leverage the performance of its AirScale base station, allowing operators to support both 4.9G and 5G technology in a single unit to maximize speed and capacity as they migrate to 5G. "We continue to evolve our 4G offering with 4.5G Pro and 4.9G technologies, and with this network latency demonstration we can show operators how they could use LTE to deliver higher-bandwidth industry and enterprise applications to more customers on their path to 5G," said Tero Peltola, head of the LTE business line at Nokia. Korea is determined not to be outshone by China in the race to 5G. Local operator SK Telecom has announced that through collaborations with Samsung and Nokia it has successfully demonstrated 5G using the 3.5GHz band for the first time in the country. The end-to-end trial 3.5GHz network comprises of a 5G virtualized core, virtualized RAN, distributed unit (baseband unit and radio unit) and a test device based on the 3GPP 5G New Radio standard. With 3GPP having agreed upon key physical component technologies of the air interface, such as numerology, frame structure and channel coding, the 5G NR test system developed by SK telecom and Samsung was built with a subcarrier spacing of 60kHz, transmit time interval (TTI) length of 0.25ms, a subframe structure that simultaneously supports downlink data and uplink feedback, and LDPC channel coding. SK Telecom also worked with Nokia to develop 5G base station equipment and test device for the 3.5GHz spectrum and successfully realized Gbps-level throughput using carrier aggregation

techniques. SK Telecom plans to deploy commercial 5G networks using 28GHz in downtown areas where data traffic is most concentrated, while covering wide areas with 3.5GHz 5G networks or a combination of the two. "SK Telecom has secured all key technologies for building commercial 5G networks using 3.5GHz and 28GHz frequency bands," said Park Jin-hyo, SVP and Head of Network R&D Center of SK Telecom. "We will maintain our leadership in 5G by enhancing our technologies for both above-6GHz and below-6GHz frequencies, while playing an active role in the standardization and commercialization of 5G technologies."

IoT Service Subscribers near 6 Million Recorded in Korea

The number of South Koreans using Internet of Things services introduced by the country's three mobile carriers is on the rise, providing a new breakthrough for the telecom companies' stalled growth, according to government data and industry sources. Data from the Ministry of Science, ICT and Future Planning showed 5.95 million Koreans have subscribed to IoT services as of May, accounting for nearly 10 percent of the total number of subscribers of mobile network services, at 61.45 million. The

ministry's data classifies IoT services into five categories: remote controlling, vehicle controlling, tablet PCs, wearable devices and mobile payment services. Of the IoT service users, about 36 percent or 2.13 million people, were using remote controlling services, including home IoT services. Vehicle communications such as telematics services followed with 1.24 million subscribers. By 2021, global spending on IoT-related hardware, software and services is estimated to reach $1.4 trillion, showed a recent survey by market researcher IDC. This year alone, the spending is expected to surge 16.7 percent to around $800 billion worldwide compared to last year. Korea's IoT market is forecast to grow centering on the smart home, according to the industry. The country's smart home market value reached 11.1 trillion won ($9.66 billion) last year and will rise to 13.2 trillion won this year, showed data from the Korea Association of Smart Home. The country's three major telecom companies have been developing and commercializing both business-to-business and business-to-consumer IoT services in order to create new profits amid the stagnant growth of traditional mobile services. The mobile carriers are increasingly teaming up with construction companies to set up home IoT platforms in new apartments. They are also rolling out smart home devices and services for individual consumers. SK Telecom has launched around 70 smart home services that are connected to SKT's voice assistant NUGU speaker in collaboration with about 60 other companies from different industries. SKT IoT services include the remote control of door-locks, gas valves and a wide range of home appliances. Meanwhile, KT is beefing up cooperation with electronics manufacturers like Samsung and LG Electronics. The company launched GiGA IoT Home Manager, a home IoT service that enables remote operations of up to six home appliances made by LG by connecting the products with KT's voice-controlled speaker GiGA Genie. Among the three mobile carriers, LG Uplus has the largest number of construction business-to-business partners as it aims to be a leader in the home IoT market. The company is partnering with more than 20 builders that work together on establishing IoT platforms in new apartments from the very beginning of construction processes. "After KT and LG Uplus complete IoT-specialized networks known as NB-IoT, a low power wide range wireless network, IoT service subscribers are expected to show a steep rise," said an industry source. SKT's IoT network called "LoRA" was completed nationwide last year, enabling the company to provide a broad range of IoT services. SKT launched the IoT-based device Smart Tracker, which notifies users of the loss of personal items and is linked to the company's smart home application.

EchoStar Mobile and ESA Join for 5G Push in Europe

EchoStar Mobile announced that it is joining the European Space Agency (ESA) and other space industry leaders in a joint effort to develop and promote 5G services, and to demonstrate the value that the satellite industry can bring to the acceleration of 5G throughout Europe. According to ESA, 5G provides a major opportunity for the European space industry and for space and satellites to become integral parts of the future generation of communications networks and services. This initiative, starting in 2018, will include 5G trials focused on satellite capabilities in sectors such as transport, media, entertainment, and public safety. Satellite operators, manufacturers and service providers will work together to pursue applications development, standardization, resource management, interoperability demonstration campaigns, and the development of supporting technologies for 5G. "All of these efforts are designed to support the European Union in its initiatives to bring ubiquitous coverage and enhanced services throughout Europe," said Chris Britton, managing director of EchoStar Mobile.

China to be World's largest 5G Market by 2025

Chinese operators are on track to launch commercial 5G networks by 2020 and are expected to establish China as the world's largest 5G market by 2025, according to a report from GSMA Intelligence and the China Academy of Information and Communications Technology (CAICT). Mobile operators in China plan to run a phased testing period for 5G networks from 2017 to 2019 before launching commercially in 2020. Following commercial deployment, 5G connections in China are expected to reach 428 million by 2025, accounting for 39 percent of the 1.1 billion global 5G connections expected by that point.

China Mobile, SAIC, Huawei Demo 5G Remote Driving

China Mobile, SAIC Motor and Huawei have jointly demonstrated the first 5G-based remote driving technology with a consumer car. The demonstration at Mobile World Congress Shanghai involved using a Huawei-provided 5G solution connecting SAIC Motor's smart concept car the iGS, with China Mobile providing the connectivity. The remote driving field test involved a driver located over 30km away from the vehicle, and used HD video cameras installed on the vehicle to send multiple real-time video feeds to provide the driver with a 240-degree view of the vehicle's surroundings, more than the average binocular peripheral vision. Control signals for steering, acceleration and brakes were also transmitted over the 5G network in real time using 5G's ultra-low latency capabilities. End-to-end latency for all vehicle control functions was less than 10 milliseconds, providing an eight centimeter distance between breaking and actual deceleration when the vehicle was traveling at 30km/h. Remote driving can be used to augment autonomous vehicles and has a range of potential applications, particularly in harsh or dangerous environments like mining or waste disposal sites, Huawei said. The technology could allow a single person to manage a fleet of autonomous vehicles, providing human intervention as needed such as in emergency situations.

Movistar Chile Tests 4.5G Technology

Spanish-owned mobile provider Movistar Chile conducted its first demonstration of 4.5G LTE-Advanced Pro (LTE-A Pro) technology in partnership with Finnish vendor Nokia, achieving peak download speeds of 1Gbps. Its test included carrier aggregation (CA) and massive multiple-input, multiple-output (Massive MIMO) technologies and used Nokia AirScale solution.

REGULATORY NEWS

Operators Maintain EU Pressure over Spectrum Policy

CEOs of nine of the largest operators in Europe including Vodafone, Orange and Deutsche Telekom joined the GSMA in calling on EU ministers to back an "investment-friendly" spectrum framework. Ahead of an EU ministerial meeting scheduled on 18 July to discuss the European Electronic Communications Code (EECC), the executives highlighted the need for spectrum policy reform, noting inadequate action risks stifling digital innovation and growth. The heads of KPN, Telenor, Telecom Italia, Vodafone Group, Telia, Deutsche Telekom, Telefonica, Telekom Austria, Orange Group and the GSMA signed an open letter to ministers outlining their recommendations. In the letter, the companies echoed earlier calls for 25-year spectrum licenses with presumption of renewal at expiry, efficient peer review framework for sharing best practice, voluntary spectrum sharing options and a "fee structure that reflects efficient and effective use of the spectrum as well as coverage commitments." "We see this as an unprecedented chance to champion genuine spectrum policy reform, that will position Europe as a true global leader," they wrote, adding: "Reforming the current spectrum rules is of the utmost importance." "Failure to establish a well-functioning and investment-friendly spectrum framework risks stifling innovation, growth and development for decades to come. This will not only impact the mobile industry, but also adjacent sectors that increasingly rely on connectivity and digitalization." Following the publication of the draft EECC in September 2016, it emerged representatives from several member states including Spain, the UK and Germany were against the award of 25-year licenses to operators. Opponents believe the award of long licenses would hamper the abilities of regulators to respond to developments in the market and restrict innovation as licenses would often last longer than the technology they were designed to support.

Indian Competition Watchdog Clears Vodafone-Idea Merger

The Competition Commission of India (CCI) has approved the proposed merger of Vodafone India and Idea Cellular, creating India's largest mobile operator. Vodafone India and Idea are currently the second and third largest operators on the local market, respectively. The merged entity will have a combined base of nearly 400 million customers and 41 percent revenue market share. Under the plan submitted to Indian regulators, Vodafone will initially hold a 50 percent stake in the combined entity, while the Aditya Birla Group and public shareholders will hold 21.1 percent and 28.9 percent, respectively. Idea Cellular is an Aditya Birla Group Company. Vodafone will then divest a 4.9 percent stake to Aditya Birla, which would increase Aditya Birla's stake from 21.1 percent to 26 percent, thus crossing the threshold for an open offer. Under the agreement, Vodafone will subsequently own 45.1 percent of the combined company after transferring a 4.9 percent stake to the Aditya Birla Group for INR 39 billion in cash, concurrent with the completion of the merger. The new combined entity will remain listed and be renamed at a later stage. The promoters of Idea and Vodafone would have the right to nominate three members each on the board, which will have 12 directors, six of whom will be independent. Vodafone and Aditya Birla Group welcomed the decision of the Competition Commission of India and said they expected other statutory approvals to follow in order to complete the transaction in 2018. The two companies also said they "remain fully committed to fulfilling the Digital India vision" of the local government and will connect villages, towns and cities across India with 4G/4G+ networks.

European Union: EU Regulation on Cross-Border Portability of Online Content Services in Force

After publication in the Official Journal of the European Union, Regulation (EU) 2017/1128 of the European Parliament and of the Council of June 14, 2017 on cross-border portability of online content services in the internal market ('Regulation') enters into force July 20, 2017, and will become enforceable March 20, 2018. The Regulation focusses on seamless access to online content services across Member States. Consumers shall have access to the online content services which they have subscribed to, regardless whether they are temporarily present in a Member State other than the Member State of residence for a limited period of time. The Regulation stresses that a number of barriers hinder the provision of online content services, such as music, games, films or entertainment programmes, to consumers temporarily present in a Member State other than their Member State of residence. The barriers stem from the fact that the rights for the transmission of content protected by copyright or related rights, such as audiovisual works, are often licensed on a territorial basis, as well as from the fact that providers of online content services might choose to serve specific markets only. Notably, the Regulation applies also to contracts concluded before the date of the Regulation's application. The Regulation applies to providers whose services are provided against payment

of money. Providers whose services are provided without payment of money do not fall within the scope of the Regulation. They may, however, decide to enable cross-border portability of their services in accordance with the Regulation.

Bangladesh Set to Finalize Digital Security Act in August

The government will finalize the draft of Digital Security Act in August, Law Minister Anisul Huq said. And the much-talked about section 57 of Information Communication and Technology (ICT) Act will remain in force till August when the government will take decision in this regard, the law minister said. "We will hold a final meeting on the issue in mid-August to finalize it," the minister said while talking to reporters after holding a view exchange meeting on proposed Digital Security Act at the secretariat in Dhaka. There is an ongoing debate over the alleged misuse of the section 57 of the Information and Communication and Technology Act-2006 and human rights activists and journalists are demanding repeal of the section. The law minister on several occasions earlier said that the government will scrap the section and interpret it in the proposed digital security act. Asked about repealing section 57, the minister said, "We will take decision in August… case can be filed under section 57 until it is scrapped." If the government even scraps the section 57, a similar provision is going to return in the proposed Digital Security Act approved by the cabinet last August. Asked, the minister said, "I will not make comment in this regard as the proposed act is yet to be finalized." The meeting was attended by Zunaid Ahmed Palak, State Minister for ICT Division and State Minister for Post and Telecommunications Tarana Halim among others. According to the section 57, if any person deliberately publishes any material in electronic form that causes deterioration of law and order, prejudices the image of the State or a person or causes to hurt religious belief, the offender faces jail term for a maximum of 14 years. Legal experts have unequivocally been saying section 57 goes against the people's right to freedom of expression and free speech. Vague wordings in the section can easily be used and misused against newsmen and social media users and would have a chilling effect on free discourse necessary in a democratic society.

UK Operators Angered by OFCOM 5G Auction Caps

Ofcom has announced how it will release spectrum for 5G mobile services, including new measures to safeguard competition, which UK operators have heavily criticized. The regulator is to auction licenses to use 190 MHz of spectrum in two frequency bands, increasing the airwaves available for mobile devices by almost one third. 40 MHz of spectrum will be auctioned in the 2.3GHz band. These airwaves could be used immediately after release to provide extra capacity, meaning faster downloads and internet browsing for mobile users. In addition, 150 MHz of spectrum will be auctioned in the 3.4GHz band. These airwaves are not compatible with most current mobile devices, but are expected to be usable by future phones and tablets. The 3.4GHz band has been identified as central to the rollout of 5G mobile across Europe. 5G spectrum auctions have recently completed in Ireland, raising €78 million. Ofcom will impose two different restrictions on bidders aimed at limiting the amount of spectrum operators can win in the 2.3GHz band; and placing overall limits on the spectrum an operator can win across the 2.3GHz and 3.4GHz bands in aggregate. A cap of 255 MHz on the "immediately useable" spectrum that any one operator can hold as a result of the auction means BT/EE will not be able to bid for spectrum in the 2.3GHz band. An additional cap of 340 MHz on the overall amount of mobile spectrum a single operator can hold as a result of the auction amounts to 37% of all the mobile spectrum expected to be useable in 2020, which includes not only the spectrum available in this auction but also the 700MHz band. The aim is to preserve competition by limiting the spectrum available to the UK's largest operators, protecting the positions of O2 UK and 3UK, which is investing in a fixed wireless strategy. Taken together, the effect of the caps will be to reduce BT/EE's overall share of mobile spectrum; the company can win a maximum 85 MHz of new spectrum in the 3.4GHz band. The overall cap also means that Vodafone could gain a maximum 160 MHz of spectrum across both the 2.3GHz and 3.4GHz bands. Philip Marnick, Ofcom's Spectrum Group Director, said: "We've designed this auction to ensure that people and businesses continue to benefit from strong competition for mobile services. We want to see this spectrum in use as soon as possible. These new airwaves will support better services for mobile users, and allow operators to innovate and build for the future." Operators O2 UK and 3 UK say the caps fall short of what's needed to secure competition and 3 UK has threatened legal action. EE, which shareholder Orange is looking to exit, believes the caps are unnecessary.

Airtel and Tata in Talks over Potential Mega-Merger

Bharti Enterprises and Tata Group have reportedly held 'exploratory talks' regarding a potential merger of their telecom, direct to home (DTH), enterprise and international cable businesses, as Tata seeks to exit the market, the Economic Times writes, citing several people familiar with the matter. The talks centered on a possible tie-up between Tata's Tata Teleservices (TTSL), Tata Sky and Tata Communications, and Bharti Enterprises' Bharti Airtel, including the latter's wholly-owned DTH arm. A merger would firm-up Airtel's leading position in the nation's mobile market by adding just under 50 million subscribers to its books (bringing its total to more than 320 million), whilst granted the operator access to spectrum in the sought-after 800MHz range and augmenting its existing 1800MHz holdings. The enlarged company would also benefit from an expanded fiber-optic cable footprint and would reportedly become a dominant player in the DTH segment. The prospective deal has numerous hurdles, however, not least of which is the debt burden of more than INR300 billion (USD4.6 billion) shouldered by the Tata Group companies, which Airtel is unlikely to agree to take on. Meanwhile, the deal would have to be agreed by minority shareholders in the Tata Group companies, which include 21st Century Fox, Temasek (both Tata Sky) and the Indian government (Tata Communications). Tata also a minority interest in American Tower Corporation (ATC) India, which competes with Bharti Infratel and Indus Towers (in which Airtel holds a 42% interest) in the telecom tower market. The talks come as the Indian mobile market is beginning a wave of consolidation, with mergers planned between: Vodafone India and Idea Cellular; Reliance Communications (RCOM), Aircel and Sistema Shyam TeleServices (SSTL); and Airtel and Telenor India. The government is also expected to merge state-owned operators Bharat Sanchar Nigam Limited (BSNL) and Mahanagar Telephone Nigam Limited (MTNL) in the near to mid-term, but no concrete plans to that end have been confirmed. Should the current raft of mergers all be completed (including the prospective Airtel/Tata and BSNL/MTNL tie-ups), the nation's mobile market would slim down from eleven to five operators with the following market shares (based on subscriber totals at March 2017): Vodafone/Idea, 34.6%; Airtel/Tata /Telenor, 31.9%; RCOM/Aircel/SSTL, 15.3%; Reliance Jio Infocomm (Jio), 9.3%; BSNL/MTNL, 8.9%.

US Telcos Delay Net Neutrality Battle in Hope of FCC Action

The US telecom industry announced a halt in its legal battle against the net neutrality rules, in order to give the FCC more time to review the regulation. Industry group USTelecom said it asked for a 60-day extension to file its application with the Supreme Court to review the last ruling in federal court.

In June 2016, the group lost its appeal against the 'Open Internet' order, in effect since June 2015. Since then the make-up of the FCC has changed with the new US administration, and the regulator announced in May that it would review the rules. The new FCC Chairman Ajit Pai is hoping to reverse the designation of broadband service as a utility, which allowed the previous administration to impose the net neutrality rules on ISPs. USTelecom said the delay in its court filing will give the FCC time to complete its public consultation and possibly change the rules. A reclassification of broadband service "may make moot some or all of our concerns", the group said in a statement. USTelecom and most major ISPs in the US have resisted the FCC's authority on the matter, saying it doesn't have the legal mandate to impose such restrictions. The fear is that the so-called Title II classification of broadband under the Telecommunications Act could allow the FCC to impose even stricter rules in future on internet providers. The industry prefers to see Congress take action on net neutrality and limit the FCC's role. USTelecom's announcement comes the day of a major protest action across the web in the US, where sites including Google, Amazon and Twitter as well as a reported 80,000 others have posted banners, pop-ups and other messages to encourage internet users to resist the FCC's proposed changes to net neutrality. Major ISPs, such as Verizon, Comcast and AT&T, have taken a more nuanced stance, saying they support the concept of net neutrality but are still opposed to the FCC's method of regulation.

Germany Big Target of Cyber Espionage and Attacks: Government Report

Germany is a big target of spying and cyber-attacks by foreign governments such as Turkey, Russia and China, a government report said on Tuesday, warning of "ticking time bombs" that could sabotage critical infrastructure. Industrial espionage costs German

industry billions of euros each year, with small- and medium-sized businesses often the biggest losers, the BfV domestic intelligence agency said in its 339-page annual report. The report mapped out a range of security threats, including Islamist militancy and increased far-right violence, but highlighted the growing incidence of cyber espionage. It cited a "noticeable increase" in spying by Turkey's MIT foreign intelligence agency in Germany in 2016, following the failed July 15 coup in Turkey, and said Russia was seeking to influence a parliamentary election on September 24. "The consequences for our country range from weakened negotiating positions to high material costs and economic damage all the way to impairment of national sovereignty," it said. Key targets were the Foreign Ministry and its overseas offices, the Finance and Economics ministries, the Chancellery and the German military. Interior Minister Thomas de Maiziere said the government was working closely with industry to better protect German firms, with the most affected sectors being the weapons, space and aerospace and car industries, as well as research institutes. Cyber-attacks could not only lead to losses of information, but also, through delayed-action malware, trigger "silent, ticking digital time bombs" that could manipulate data and sabotage equipment, especially critical infrastructure, the report said. It said that the Sandworm malware, which computer experts have linked to Russia, had actively targeted government sites, the NATO military alliance, utilities and telecommunications firms in recent years. Russia, China and Iran were the main countries spying on Germany, albeit for different reasons, it said. Russia had a keen interest in the removal of economic sanctions imposed by the European Union for Moscow's actions in Ukraine, and the Russian hacker group APT 28, also known as Fancy Bear and believed to be state-controlled, continued to attack German political targets, the report said. Russia was also using so-called Internet trolls to influence public opinion and push pro-Russian views, the report said, citing a sharp increase in propaganda and disinformation campaigns using social and Russian-backed media. "It is assumed that Russian state agencies are trying to influence parties, politicians and public opinion, with a particular eye to the 2017 parliamentary election," it said. Iran was focused mainly on Israeli or pro-Jewish targets and political opponents of Tehran's clerical rulers. The report cited a sharp decline in potential attempts by Iran to buy dual-use items for its nuclear program, but said that was not true for its missile development efforts. Chinese espionage had increased since President Xi Jinping took office in 2013, and was focused increasingly on political events such as the upcoming G20 summit in Hamburg, as well as technology and critics of the Chinese government. It said Chinese intelligence was using social media sites such as LinkedIn and Facebook to try to recruit Western informants, and that the close links between government and industry meant state and industrial espionage were hard to distinguish. Turkish spying was focused on backers in Germany of both the banned separatist Kurdistan Workers' Party (PKK) and the U.S.-based cleric Fethullah Gulen, whom Turkey blames for the failed coup, though he denies involvement.

India Declines Microsoft a White Spaces Internet License

Microsoft's White Spaces Internet project has received a setback after the Indian government failed to grant them a license to continue operating their pilot project at Harisal — a small village in Maharashtra. The village was showcase Microsoft, and the technology was being used for a number of community projects, with HP setting up an e-learning center, where students are provided free computer training inside an air-conditioned pod and an eHealth center that connects to doctors across the country for specialized care in cases where local doctors are unequipped to handle them. LV Prasad Eye Institute had also set up a digital slit lamp for ophthalmology, which lets doctors sitting in Hyderabad examine the eyes of patients in Harisal and offer treatment. Microsoft's White Space technology offers wide area long distance wireless networking over the old television bands, offering higher throughput, low power usage and greater penetration into buildings. Globally, the white space technology has been successfully deployed in the US and Singapore and is being tested in Kenya, Tanzania, South Africa and the Philippines. Prashant Shukla, Microsoft India's national technology officer, said the white spaces spectrum can take signals up to 10km and enable

speeds up to 16Mbps. "The technology can quickly provide low-cost internet connectivity to underserved sections and also provide newer ways of livelihood in rural India," Shukla said. Telecom Ministry is understood to have declined to give the spectrum band for commercial deployment of White-fi. Microsoft has been running into opposition from the Cellular Operators Association of India (COAI) demanding an auction of the spectrum, instead of allocating it to one company. Harisal village confirmed that Microsoft has stopped using the technology after its temporary license to use the spectrum could not be renewed. The village will now fall back to much slower traditional cellular networks through an arrangement with one of the telecom operators.

Estonia: Brexit Talks Won't Distract EU from Digital, Security Issues

The premier of Estonia, which has taken over the six-month EU Council presidency, made it clear once again that the EU-27 was moving forward on key issues like security, defense and digitalization regardless of the pace and outcome of Brexit talks. Outlining Estonia's priorities for the presidency in the European Parliament in Strasbourg, Prime Minister Jüri Ratas said: "We are sad to see the UK withdraw from the EU. It is a loss for the EU and for the UK and I hope that the UK will remain a close friend." "However, one of the presidency tasks is also to make sure the EU-27 continues to work and deliver for our future. We will not let Brexit negotiations dominate our work and prevent us from achieving results," the Estonian leader told the Parliament's plenary session. Historic talks on the UK's divorce from the Union started in Brussels on June 12, with the two sides agreeing to tackle the issues of London's outstanding financial obligations, the rights of the EU and UK citizens living abroad, and Ireland's border with Northern Ireland. But despite good will demonstrated by the two chief negotiators, it was clear that there remained a lot of ground to cover in less than two years and that differences on some issues, particularly citizens' rights, remained big. Turning to Estonia's priorities, Ratas said that, along with security, the need to "spend more and better on defense" and control the EU's external borders, digital issues would be very high on the agenda. "We are committed to delivering (the) Digital Single market in 2018, but we must also look further afield, which is why we have a digital dimension to almost every aspect of our presidency programme," Ratas told the legislators. "In Estonia, we think free movement of data is the fifth freedom in the EU. We will start a political debate in Europe on this essential freedom. Digital revolution is at the core of every challenge and opportunity Europe faces today." He said Europe needed "fast, seamless, always-on connectivity" and a fast rollout of 5G, the super-fast, higher capacity broadband service, but stressed the strong need to respect "privacy, data protection and our digital identity". The ultimate aim, he said, was to digitalize all communication between citizens and administration. "Once you have filled your tax declaration in just three minutes, while sitting by the river on a nice Sunday, you will never want to go back to paperwork," the prime minister concluded.

UAE Firms Urged to Adopt Data Privacy Law

With two-thirds of global organizations ramping up compliance to meet the European Union data privacy regulations, the UAE faces growing urgency to adopt information management solutions this summer for compliance and better business decision-making, urged an industry expert. The EU's General Data Protection Regulation (GDPR), which will be enforced on May 25, 2018, is a vast and complicated process that requires

all large and small businesses, in all regions and in all industries, to more strengthen protection of personal data of all EU citizens in 28 member states. The European Parliament adopted the GDPR in April last year and has already been ratified into the UK law, thus replacing an outdated data protection directive from 1995. With less than 12 months to act, Savitha Bhaskar, Chief Operating Officer at UAE-based IT infrastructure and information management consultancy and solutions provider Condo Protego, said that there's still a worrying number of businesses that barely know about the regulation. According to a recent GDPR report by information management company Veritas, vast majority of organizations worldwide (86 per cent) are concerned about meeting GDPR guidelines, and two-thirds (65 per cent) of organizations are working with third parties on GDPR compliance. Bhaskar said that many of the UAE organizations do not know if they are GDPR compliant, this summer is vital to begin their compliance, or risk falling behind and facing penalties. She said that any organization that does business in or holds data on residents in the European Union needs to be able to secure, identify, and delete personal data. If not fully compliant when GDPR goes into effect, organizations face fines of 20 million euros or four per cent of revenue. While the originator of data remains the owner, under GDPR anyone who processes that data is also responsible. If a tech company houses, handles or exchanges the personal data of any EU citizen it is required to be GDPR compliant. "GDPR defines accountability for data protection across the board and companies will have to clearly define responsibilities and liabilities among partners," she said. "The companies in the UAE need to start getting a plan into place as it cannot be done overnight. It will take around three to six months to think how compliant their businesses are and will take another three months to fortify our systems and another three months to roll out the infrastructure," she said. As of now, she said that there are lot of companies struggling in the EU to meet the deadline and many consultancy reports have also said it but in the region, many companies have pretty good IT infrastructure when compared to many other countries. "The new regulations give users the right to be notified if a breach occurs by requiring organizations to report data breaches to data protection authorities," she said. According to Gemalto's 2016 Breach Level Index report, 1,792 data breaches worldwide led to almost 1.4 billion data records compromised worldwide during 2016, an increase of 86 per cent compared to 2015. Data breaches in the Middle East were up by 16.67 per cent to 21 in 2016 compared to 18 in 2015 and 45.2 million data records were compromised compared to 38.5 million a year ago. Identity theft was the leading type of data breach in 2016, accounting for 59 per cent of all data breaches while 52 per cent per cent of the data breaches in 2016 did not disclose the number of compromised records at the time they were reported. Bhaskar said that not every company is going to be affected by GDPR, only those who have businesses that use EU citizens' data. "Many tech companies are now offering pre-packaged software solutions to help companies to meet the GDPR standards. Organizations in the UAE should work closely with channel partners on a data platform and upskill staff on GDPR compliance. With better data insights, organizations can also gain more informed decision-making, faster time to market, and enhanced customer trust," she said.

Government Approves New Budget for BharatNet, Greenlights Second Phase

The Indian government has approved the second phase of its ambitious BharatNet programme, which aims to provide broadband connectivity to all of the country's 250,000 gram panchayats (village-level administrative division). The Economic Times writes that the cabinet has approved a total budget of INR420.7 billion (USD6.5 billion) for the programme, including INR111.5 billion for the first phase, which covers 100,000 villages, and INR187.9 billion for the second phase, which will connect the remaining 150,000 villages. The remaining INR121.3 billion will be used to cover the cost of last-mile connectivity, operation and maintenance and the replacement of elements of state-owned telco Bharat Sanchar Nigam Limited's (BSNL's) existing fiber infrastructure. Alongside the approval of the new budget, the deadline for the programme was pushed back to March 2019, following a series of delays in completing the first stage. The project had initially envisioned installation of underground fiber only, but has now been broadened to include aerial fiber as well as radio and satellite links.

OFCOM to Introduce Cap on Mobile Spectrum Control Ahead of Airwaves Auction

In plans outlined on Tuesday the regulator said the cap, set at 37%, will restrict BT-owned EE and Vodafone in the auction process, due to take place later this year. Philip Marnick, Ofcom's spectrum director, said: "We've designed this auction to ensure that people and businesses continue to benefit from strong competition for mobile services." However, smaller operators such as Three and O2 wanted the cap to be set at between 30% and 35%. Three chief executive Dave Dyson described Ofcom's proposal as a "kick in the teeth" for consumers. He said: "By making decisions that increase the dominance of the largest operators, Ofcom is damaging competition, restricting choice and pushing prices up for the very consumers that it is meant to protect."The mobile market is imbalanced and failing customers. Ofcom has shown little interest in tackling the problem. We will consider our response as a matter of urgency." Smaller mobile networks like Three are concerned that the auction process will allow larger players to increase their dominance of the sector. BT/EE holds 45% of all usable mobile spectrum, Vodafone has 28%, O2 15% and Three 12%. However, Ofcom said that Three's consultation response "presented an overly pessimistic view of its own position". An Ofcom spokesman said: "We take all our decisions in the interests of consumers."This auction will keep the airwaves fair by reducing the share held by the largest operator. "It will include strong safeguards to maintain a healthy four-player market and allow mobile operators to acquire the airwaves they need to compete." Ofcom's cap means BT/EE will not be able to bid for spectrum in the 2.3GHz band and Vodafone can bid for a maximum 160 MHz of spectrum across both the 2.3GHz and 3.4GHz bands. EE boss Marc Allera said: "While we don't agree that spectrum caps were necessary for this auction, our focus remains on investing in our network, using our existing and future spectrum to provide the best mobile experience for our customers across the UK. "We look forward to bidding for additional spectrum in this auction."

Telecoms Regulator Approves Etisalat Nigeria Name Change

Africa's telecommunications company, Etisalat Nigeria has rebranded to a new name 9Mobile. Hatem Dowidar, Etisalat International Chief Executive Officer said Etisalat Group would in the next three weeks phase out the brand name in Nigeria. The decision followed Emirates Telecommunications Group (Etisalat Group) withdrawal of further involvement in the ownership of the Nigerian subsidiary. The United Arab Emirates, UAE, group was a major shareholder in Etisalat Nigeria, along with United Arab Emirates Sovereign Wealth Fund through Mubadala Development Company, Abu Dhabi. The two affiliates controlled a combined 85% equity in the telecom firm, with Myacinth holding 15 per cent stake through Emerging Markets Telecommunications Services, EMTS Holding BV, owned by Hakeem Bello-Osagie, former United Bank for Africa (UBA) Chairman. Opting to part ways with the company followed the crisis in the wake of the $1.2 billion (N377.4 billion) syndicated loan the telecom firm took in 2013 from a consortium of 13 Nigerian banks. Boye Olusanya, 9mobile new Chief Executive Officer said the new management was mandated to ensure the business was run as profitable venture. "What is most important now is to ensure the business runs and meets its obligations. We will focus on getting the company back on track as soon as possible," said Olusanya.

'Digital Pakistan': Computer Labs to be Established in 226 Schools in Pakistan

Minister of State for Information Technology and Telecom Anusha Rehman says under Prime Minister's programme of 'Digital Pakistan' every un-connected village of the country would be provided broadband facility by the end of next year. Speaking at a function in Islamabad, she said programmes in this regard are underway in Balochistan and KPK while project for FATA would be rolled out next month. Anusha Rehman said the IT ministry is working as enabler for effective utilization of information technology in the fields of education, health and agriculture. Minister of State for CADD Dr. Tariq Fazal Chaudhry said Islamabad schools in the Capital would be made role model institutions under Prime Minister's reforms programme. He said under the programmes, schools are being improved and upgraded besides provision of necessary facilities.

Falling India Mobile Revenue Hits License Fee Collection

Declining mobile revenue in India's telecoms industry led to a significant drop in the license fees the government collected from mobile operators in the opening quarter of the year, the telecom regulator said. Mobile operators' license payments fell 9 per cent sequentially in Q1 to INR33.6 billion ($522 million), The Economic Times (ET) reported. According to a report from Telecom Regulatory Authority of India (TRAI), operators' adjusted gross revenue in Q1 dropped 15 per cent year-on-year and 11 per cent sequentially to INR408 billion. Mobile operators pay 8 per cent of their adjusted gross revenue as a license fee and another 3 per cent as a spectrum usage charge. Operators' balance sheets have been significantly impacted by a price war sparked by Reliance Jio after it launched 4G service in September 2016 and introduced a series of free data offers. Bharti Airtel and Idea Cellular posted heavy losses in the January to March quarter. TRAI figures showed monthly ARPU in the period declined nearly 21 per cent from the previous quarter to INR83, ET said. In June, the country's Department of Telecommunications (DoT) asked the finance ministry to reduce the estimated non-tax revenue to be collected from telecoms operators for the current fiscal year by more than a third due to widespread discounting and the industry's heavy debt. DoT forecasts revenue collected from operators in the

fiscal year ending 31 March 2018 to drop 37 per cent to INR295 billion, with revenue from license fees nearly halving to INR92.6 billion and funds from spectrum usage charges falling 35 per cent to INR170 billion.

OFCA Responds to Spectrum Critics

Hong Kong's Office of the Communications Authority (OFCA) has hit back at criticism that it is not doing enough to prepare the way for future 5G mobile services. The territory's director general of telecommunications, Eliza Lee Man-ching, has told the South China Morning Post that the regulator wants to ensure that Hong Kong remains 'at the forefront of bringing new technologies and new services'. While local telcos have called on the government to release more frequencies for mobile services, Lee says that OFCA is waiting for the ITU to define the standards and spectrum bands for 5G before pushing ahead with any new allocation of frequencies. In March this year the watchdog opened a consultation on the possible award of spectrum for 5G services in the 700MHz, 3.5GHz and 26GHz-28GHz ranges, though an allocation is not expected to be made until 2020 at the earliest. Hong Kong operators currently utilize 582MHz of frequencies in total across all bands, and operators say this is not enough to support 5G services. Mainland China plans to increase its available spectrum from 522MHz to 722MHz by 2019.

China Unicom to Acquire Spectrum from State Agency

China Unicom, the country's second largest mobile operator, is negotiating a deal to acquire 700MHz spectrum from China's State Administration of Radio, Film and Television (SARFT) in exchange for shares in the listed firm, C114.net reported. The telecoms portal noted a deal, part of the country's new mixed-ownership reforms, is likely to be finalized, but will take time as there are as many as ten ministries and commissions involved.SARFT held the valuable 700MHz spectrum for years and has long attracted the attention of the country's mobile operators. The agency reportedly conducted tests on the frequency to prepare for an LTE launch, but never deployed a network. China Unicom at the end of June denied reports it reached a deal to receive an estimated CNY70 billion ($10.3 billion) in investment from internet giants Alibaba and Tencent as part of the government's efforts to inject private capital into state-run enterprises. The operator said it had not signed any binding legal document or reached an agreement with any potential investor, C114.net reported. China Unicom is listed on the Shanghai exchange. The operator announced in early April its parent company was reviewing its ownership structure in a move which could see it take on private investment. The move followed an October 2016 announcement by the operator stating it could be selected to be in the first pilot for the mixed-ownership reform programme, which Fitch Ratings explained could see some increase in management autonomy in addition to the capital and state ownership elements.

ITU publishes first Global ICT Regulatory Outlook

The first-ever global report tracking market and regulatory trends in the ICT sector and their implications across economies, Global ICT Regulatory Outlook 2017, has been launched by the International Telecommunication Union (ITU) at its Global Symposium for Regulators taking place in Nassau, Bahamas July 11-14, 2017. This ICT industry outlook report represents the first in a planned annual series. It tracks how the global digital economy has been shaping up over the past ten years – what impact regulation has had – and what the digital future might look like in the coming years. The report highlights seven important global ICT trends, seven regulatory trends, and ends with seven predictions on where regulation will go in the coming months and years. "The Global ICT Regulatory Outlook 2017 report is a key resource on smart, inclusive and forward-looking ICT regulation," said Houlin Zhao, ITU Secretary-General. "Its findings provide useful guidance in reviewing and upgrading regulatory frameworks for the ICT sector as a basis to widening the digital economy and more importantly reaching out to the more than 3.9 billion people worldwide who remain unconnected." "The Global ICT Regulatory Outlook 2017 is unique in that it summarizes information that is relevant to regulatory bodies, operators, service providers and consumers worldwide," said Brahima Sanou, Director of the ITU Telecommunication Development Bureau. "I am confident the report will become an invaluable tool that enables different stakeholders to navigate through rapidly evolving technologies, business models and market structures."

Key facts:

Presents big picture of world's digital economy

The report tracks the world's digital economy since 2007 – and reports with authority on what impact regulation has had. It also makes well-informed predictions on what the digital future might look like in the coming years and on the opportunity regulators now have to help shape balanced markets that benefit all. The report points to a bright digital future but underlines that more countries will need to embrace Generation 5 regulation – an open, collaborative, incentive-based and cross-sectoral approach – to make this bright future a reality.

Unique, authoritative, global

The report is global in scope, drawing on up-to-date input on ICT markets and regulation, from more than 186 countries. It draws on high-quality market and regulatory data captured in ITU's ICT Regulatory Tracker since 2007. The report transforms complexity into clear analysis and commentary, telling a unique story about regulatory change, its impact on markets across the world and the massive opportunity it engenders. The report looks forward as well as back, making informed, authoritative forecasts on how regulation and ICT markets can work together in creating an inclusive digital future for all – with economic and social development at its helm. This is a report packed full of ICT data, facts, statistics and commentary.

America Movil Rails against Asymmetric Regulation

America Movil late attacked asymmetric regulations brought in to curb the Mexican telco's dominance, claiming they led to a loss of business rights. Reuters reports that lawyers for America Movil argued in a statement that the company's rights to "cost recovery, economic stability and financial balance" were harmed by the rules. The representations come as the country's Supreme Court considers rolling back some of the regulations. In March 2014, Mexico's telco watchdog, the Instituto Federal de Telecomunicaciones (IFT), determined that America Movil's fixed and mobile subsidiaries, Telmex and Telcel, constituted dominant entities. It imposed several measures to curb their dominance, including asymmetric interconnection rates, rules governing infrastructure sharing and MVNO hosting, scrapping national roaming fees, and a ban on acquiring exclusive content rates. Competition in Mexico's mobile market has ramped up substantially since then though, thanks to the arrival of U.S. telco giant AT&T, which entered via the acquisitions of Iusacell and Nextel in 2015. Nonetheless, the IFT has kept up the pressure on America Movil, ordering it in March this year to functionally separate its fixed-line retail and wholesale operations. It also ordered America Movil to adopt the principle of equivalence when it comes to the terms under which it provides services to MVNOs. According to Reuters' report the Supreme Court has not said when it might rule on America Movil's case.

AT&T, Verizon Get behind Net Neutrality Protest but Maintain Stance on Title II

AT&T and Verizon are surprising industry watchers by joining the "Day of Action" to protest the FCC's plan to gut current net neutrality rules, but the two telcos are sticking to their guns that Title II is the wrong method with which to regulate service providers. The two telcos laid out their views in separate blog posts delivered on the eve of what will be a massive protest from over 100,000 websites, internet users and organizations. During this protest, the parties will speak out against the FCC's plan to do away with net neutrality rules enacted by former FCC Chairman Tom Wheeler in 2015 and designed to ensure the internet would not be bogged down by censorship and throttling. A prevailing concern was that content owners would have to pay toll fees to service providers to effectively deliver services to their users. AT&T, the largest U.S.-based telco that's been outspoken in questioning the former FCC regime's actions on the issue, said that it supports net neutrality as a way to enable customers to get the content it wants to access. Bob Quinn of AT&T said, "We agree that no company should be allowed to block content or throttle the download speeds of content in a discriminatory manner," said Bob Quinn, SVP of external and legislative affairs for AT&T, in a blog post. "So, we are joining this effort because it's consistent with AT&T's proud history of championing our customers' right to an open internet and access to the internet content, applications and devices of their choosing." Verizon echoed a similar tone. Will Johnson, SVP of federal regulatory and legal affairs for Verizon suggested in a blog post that "real action will involve people coming together to urge Congress to pass net neutrality legislation once and for all." The service provider pointed to its own effort to invest billions of dollars in several content providers and producers. Now that it has completed its purchases of AOL and Yahoo, which it has integrated under its Oath subsidiary, Verizon has over 50 brands reaching 1 billion people each month. "Like other Internet companies, these businesses depend on the ability to reach customers over other internet service providers' (ISP) networks," Johnson said. "And if ISPs—or other internet companies, for that matter—started engaging in practices that undermined the open internet, we would be hurt." Regardless of how the largest service providers support net neutrality, it's clear they are putting plenty of money up to fight the current rules. A recent study by Maplight indicated that for every comment submitted to the FCC on net neutrality the telecom industry has spent $100 in lobbying to crush the open internet. The group found that Comcast, AT&T, Verizon and the National Cable & Telecommunications Association (NCTA) have spent $572 million on attempts to influence the FCC and other government agencies since 2008.

Reversing Title II

However, there's a catch behind the two service provider giants' stance: Net neutrality should not incorporate Title II regulations from the Communications Act. They argued. Quinn said that the FCC's original 2010 Open Internet Order already put a ban on blocking, throttling and anti-competitive paid prioritization. He added that reclassifying the internet under Title II regulation, which was developed during the monopoly Bell System days, is the wrong approach. "Saddling modern broadband infrastructure and investment decisions with heavy-handed, outdated telephone regulations creates an environment of market uncertainty that does little to advance internet openness," Quinn said. "Instead, it jeopardizes the prospects for continued innovation and robust growth we have witnessed since the internet's creation." Verizon's Johnson agreed with AT&T's thesis. "While we agree with the goal of an open internet, we do not think the answer is to impose 1930s utility regulation on ISPs," Johnson said. "Regulation designed for rotary phones and monopoly railroads doesn't fit today's competitive Internet space." Johnson added that the Title II-based regulation has already been having negative effects. "One of the first targets of the new broadband regulation was to go after programs that gave consumers 'free data' when accessing content using their wireless devices—plans that had already proven very popular with consumers," Johnson said. CenturyLink also took aim at the Title II issue, arguing that it is creating confusion for ISPs who want to make new network investments. John Jones of CenturyLink said, "An excessive regulatory regime, like Title II—designed for monopoly telephone companies,

not broadband providers—hampers our progress," said John Jones, SVP of public policy and government relations for CenturyLink, in a blog post. "Time and money is directed elsewhere as we figure out whether the specific network we want to build, the services we want to provide, and the rates we are permitted to charge, are regulated or may be regulated in the future. This uncertainty is real and has enormous impacts on broadband investment decisions. In the end, it is customers who lose when investment is stifled." Taking it a step further, CenturyLink's Jones claims the Title II regime has slowed broadband network investments since the net neutrality rules were passed 2015. According to data the telco collected, CenturyLink says that broadband investments by the 12 largest ISPs declined 5.6%, adding that the impact is even greater for rural service providers. "Financing for infrastructure projects has dried up, especially in rural areas," Jones said. "Admittedly, the 2015 order is not the only factor leading to reduced investment, but there is little doubt that the regulatory uncertainty it caused stifled ongoing infrastructure investment." Not everyone agrees with CenturyLink's figures. Sen. Ed Markey, D-Mass., noted during the "Oversight of the Federal Communications Commission" hearing in March that carriers collectively made large investments in network infrastructure between 2015 and 2016. "The Census Bureau reported that the U.S. broadband and telecommunications industry spent over $87 billion in capital expenditures in 2015," Markey said.

A beacon under the night sky in Australia

Exploration
lights the way forward

The relentless pursuit of innovation enlightens the intelligent world

HUAWEI

A SNAPSHOT OF REGULATORY ACTIVITIES IN SAMENA REGION

Afghanistan

The Ministry of Communication and Information Technology (MCIT) said that of the 22 million active SIM cards in the country only about eight million of them are registered. The ministry said that these eight million SIM cards are also not registered properly. However, officials said they have plans in place to upgrade the registration system and process. The ministry said that once the new system is in place, all 22 million SIM cards will be registered. The ministry said that so far 28 million SIM cards have sold by telecommunication companies in the country and of these SIM cards, about six million are not being used. Officials said they have sent the new plan to the telecommunication companies in order to get feedback on the new system and once approved, the new registration process will be implemented. The companies will have six months to register all SIM cards, officials said. "Around seven to eight million SIM cards may be registered, but we also are not sure about their registration. Because in some places from five to 10 and 50 SIM cards have been registered with one National Identity Card and it is not acceptable for us," said Najib Nangialay, the ministry spokesman. A number of communications experts have welcomed the move and said that unregistered SIM cards also contribute towards insecurity in the country. Experts also claim that unregistered SIM cards negatively impact the tax collection process on mobile phone usage. "A number of people who have contracts with the companies to sell SIM cards, get activated SIM cards from the company to make the distribution easy. A number of telecom companies also leave unregistered SIM cards active in order to sell more SIM cards and the SIM cards finally go to the black market and there get sold illegally," said Musafershah Khurasani an IT analyst. This comes after a number of residents raised concern over irregularities in the sale of SIM cards and said some telecommunication companies deduct credit from SIM cards as they see fit, but are in turn not paying over the required tax to government. (July 3, 2017) tolonews.com

Algeria

Optimum Telecom Algeria (OTA, operating under the Djezzy brand) has received the government's approval for the renewal of its license to operate a public mobile telephone network and supply telecoms services. According to the decree, the license has a duration of five years. In 2015 OTA applied for an extension of its GSM license (which was set to expire on 31 July 2016). In its 2015 annual report, the Regulatory Authority for Post and Telecommunications (ARPT) said that it had started work on a recommendation for extension, as the application was in line with the requirements for renewal.
(July 11, 2017) telegeography.com

Bahrain

Telecommunications Regulatory Authority (TRA) has been continuously supporting and improving number portability in the Kingdom of Bahrain since the facility's introduction in July 2011. From then, residents in the Kingdom have been enjoying the flexibility of transferring their personal numbers freely between telecoms service providers. TRA shared its latest statistics with the public concerning number portability for the first half of 2017. "The number of accepted mobile numbers ported reached 11,643 (compared to 29,567 in the first half of 2016) a significantly large reduction in Number Portability transactions. Whereas 1,976 were rejected (compared to 7,032 in the first half of 2016)." Says TRA Manager of Information & Communication Technology, Sh. Ahmed bin Isa bin Duaij Al Khalifa. "The successful number of fixed line port requests reached 617 (compared to 694 in 2016) whereas 274 were rejected (compared to 167 in 2016). In total, 251,173 numbers in the telecom market were ported since the start of Number Portability in July 2011, and the average time to port mobile numbers in June 2017 was 23 minutes on average." He added. Sh. Ahmed also stated that "The reasons some port requests were rejected were due to several factors which mainly include CPR numbers not matching the original operator which the

subscriber's CPR number is associated with, the number being out of service, the subscriber having bad debt, or the Commercial Registration number provided not matching the same number registered with the original operator where the phone number was acquired." TRA would like to inform consumers that the best time to submit a porting request is during official work hours (Sun-Thursday, 8:00 AM to 4:00 PM) and this is due to the allowed porting window. In case the porting requests are not sent during working days or business hours, this will affect the time taken to process the porting request as the actual transfer of the number will be executed during the work hours only. Consumers should also be aware of when the billing cycle of their subscription occurs, as it is highly recommended that Consumers submit their requests two days prior to the end of their cycle in order to avoid double billing from both operators. (July 23, 2017) tra.org.bh

Telecommunications Regulatory Authority (TRA) Bahrain has issued resolution number 5 of 2017 on its website and was published in the Official Gazette on the June 8; disseminating the Regulation on Critical Telecommunications Infrastructure Risk Management. TRA conducted a preliminary study back in 2015 where it assessed the security risks posed on Critical Telecoms Infrastructure (CTI) in the Kingdom of Bahrain, highlighting the extent of the potential negative effect these security risks could possibly have on the prosperity and economic well-being of the Kingdom. CTI is as any telecommunications infrastructure, which is essential to the maintenance of vital societal functions related to health, safety, national security, economic or social well-being of people, and the disruption or destruction of which would have a significant impact. The study also highlighted the importance of conducting security risk assessments on such infrastructures to ensure the continued operation of telecommunication services. "This is a major step forward for Bahrain as no such legislation existed previously in the Kingdom, or even the region," Says TRA's Director of Cyber Security, Dr. Khalid bin Duaij Al Khalifa. "With this regulatory measure, we can evaluate and determine how key telecoms infrastructure measures up against international cybersecurity best practices and address any gaps, in addition to ensuring that service providers of public telecommunications networks take reasonable steps to mitigate the rising cyber-risks associated with the use of telecommunications devices and services. It's vital to Bahrain's continuity that all participants in the sector remain prepared to detect and respond to cyber incidents and breaches swiftly and effectively, and this regulation will enable us to facilitate cooperation between and amongst licensees with all relevant authorities. " He further added. The TRA intends to work with licensees to make certain telecom infrastructure is safeguarded and that business continuity and disaster recovery plans are put into place. TRA also aims to maintain the essential telecommunications services in the face of threats, by imposing a minimum set of obligations on key telecommunications infrastructure owners and service providers. These obligations will introduce the necessary resilience and emergency planning measures required to mitigate the risks posed by the rising cyber threats critical telecommunications networks face on a daily basis. In addition, TRA will establish procedures for the reporting of data breaches to the Authority. This regulation and the work involved will assist in the implementation of the Fourth National Telecommunications Plan (NTP4) as part of the TRA's preparedness to manage the Security of National Electronic Communications Networks and Services in Bahrain to insure that its critical telecommunication infrastructures are as secure and resilient as possible. (July 16, 2017) tra.org.bh

As part of the Telecommunications Regulatory Authority (TRA)'s mission to safeguard citizens and residents of the Kingdom from fraud and identity theft related crimes, the TRA issued the SIM-Card Enabled Telecommunications Services Registration Regulation which was published on the 31st of December 2015. As of July 12, 2017 Service providers in the Kingdom of Bahrain have begun to implement the provisions of this regulation. The implementation of this regulation comes after the expiration of the deadline specified by TRA for the operators to prepare and implement the provisions related to the registration and verification of user data and identity, including the implementation of the biometric verification process to verify the identity of the applicant. These procedures have been established in agreement and coordination with operators to implement and meet the needs of the sector. It is worth mentioning that the registration process will consist of two steps to verify the identity of the SIM card user, by presenting the applicant's identification or passport and conducting the biometric scan. The regulation has also introduced measures that limits the sale of SIM-cards in shops as the regulation only permits selling SIM-cards through the operators' outlets and their resellers who obtain a formal approval from TRA to conduct the registration and verification processes on behalf of the mobile operators. Additionally, the regulation introduced a ceiling for the number of pre-paid SIM cards consumers may acquire, which has been set at 10 pre-paid SIM-cards as a maximum from each licensed mobile operators (Batelco, Zain, Viva); as such a total of 30 pre-paid SIM-cards per person can be obtained. TRA also notes that it launched an awareness campaign for mobile subscribers in 2016, which it communicated a number of educational messages to keep users informed of the importance of controlling the cards registered under their names and not leaving them at the disposal of others. Misuse of a SIM card registered under the consumer's name by another person may expose the consumer to financial obligations or legal accountability. For more information, the regulation can be viewed on the TRA's website under the Regulations Section.
(July 13, 2017) tra.org.bh

Bangladesh

The Bangladesh Telecommunication Regulatory Commission (BTRC) has invited providers of mobile number portability (MNP) services to submit applications in a tender to be decided via a beauty contest method – with the candidates' offers evaluated according to criteria including their technical proposals and financial strength. Interested parties have until August 23, 2017 to apply; a single winner will be chosen to receive a 15-year license, and must implement a MNP system within 180 days of licensing. The regulator had previously planned an open auction for MNP provider licensing for September 2016, but it was called off. (July 25, 2017) thedailystar.net

The Prime Minister of Bangladesh who also heads the Posts, Telecommunications and Information Technology Ministry, has given her approval to cancel Pacific Bangladesh Telecom (CityCell's) mobile license over non-payment of fees and charges. It appears that the end of the country's oldest mobile network operator (MNO) is all but a formality, pending a formal public notification from the telecom regulator the Bangladesh Telecommunication Regulatory Commission (BTRC), which recommended the cancellation last month. Citycell's spectrum will now be included in the upcoming auction for 4G licenses. Last month the BTRC asked the government's permission to cancel the operating license of CityCell, which has effectively been out of operation since Q4 2016 when the authorities suspended its services for non-payment of debts. The CDMA-based cellco, which is 45%-owned by Singapore's Singtel Group, has remained in existence only via court orders allowing it time to pay instalments of overdue fees, but, according to the regulator, the MNO did not make any payments for fresh dues incurred between October 2016 and March 2017. Meanwhile, CityCell has paid nearly 65% of the total overdue spectrum/license/revenue sharing/late penalty fees demanded in October, whilst also continuing to dispute the total amount demanded by the BTRC. (July 24, 2017) telegeography.com

With two mobile phone operators having merged and another shutting down, the telecom regulator plans to welcome a new player when it holds spectrum auction to boost competition and enable digital services to flourish. Robi and Airtel merged last year while Citycell, the oldest operator in Bangladesh, remained out of service for the last 10 months and its license is due to be scrapped. Hence, a six-player market has suddenly become a four-player one, dominated by Grameenphone, Robi and Banglalink who together control 97.3 percent of the market. The remaining 2.7 percent market share is held by Teletalk, the lone state-owned operator, according to a report of Bangladesh Telecommunication Regulatory Commission (BTRC). The last license was given to Airtel in 2005. At least one new entity is expected to emerge in the auction, said Shahjahan Mahmood, Chairman of the regulatory body. "One-third of the operators have left the market, and we are eagerly waiting for new players to enter," he said. The next spectrum auction might be held within two or three months. The BTRC has drafted a guideline for fourth generation licensing which has created leeway for new entities. Experts, however, say it would not be easy to attract new investors. Abu Saeed Khan, senior policy fellow at LIRNEasia, a think-tank based in Sri Lanka, said regulatory certainty is a must to attract new investors. "But there is no predictability in the sector." "Most importantly, competition has been exiled from the sector through regulations, which is a huge setback for the market," said Khan, a former secretary-general of the Association of Mobile Telecom Operators of Bangladesh. A top official of a leading mobile phone operator said not only the telecom regulation, there have not been adequate financial and taxation regulations related to the sector as well. "That's why the existing operators are bleeding and there is no chance for a new operator in this field," he added, requesting anonymity. Khan said top global telecom giant NTT Docomo and Airtel shrank their businesses in Bangladesh which gives investors a negative signal. NTT Docomo bought 30 percent of Robi's shares in 2008 but lost interest in investing more and diluted their shares in two phases. Now the Japanese company has only 6.3 percent stakes in Robi after the merger. Warid started business in Bangladesh in 2006 but sold off 70 percent of its shares for $100,000 to Airtel. Airtel bought the rest of the shares later and invested about Tk 10,000 crore and lost Tk 5,810 crore, according to a report of the Consumers Association of Bangladesh. In the last 10 years, telecom operators were not allowed to establish any infrastructure and, apart from Grameenphone, none have optical fiber networks. Therefore, new operators hardly have any incentive to invest, Khan added. At a meeting with telecom officials in May, Prime Minister's ICT Affairs Adviser Sajeeb Wazed Joy directed the BTRC to write to top global players to invest in Bangladesh. BTRC officials said they have already communicated with one player but found it to be reluctant to come to Bangladesh. This made the BTRC more conservative in making new offers. "After your report, this information will be disseminated among the interested parties. So there is no need to formally make any offer to anyone," a top official of the BTRC told. In 2013, before a 3G spectrum auction, the BTRC had created ground for a new player to enter the market but received no positive response, though there were six players in the sector at the time. Experts said the market then was overcrowded so there was little scope for the arrival of new operators. (July 9, 2017) thedailystar.net

The telecom regulator has decided to award three licenses to manage mobile towers in Bangladesh and separate telecom business from operators' network infrastructure. A foreign company can hold 60 percent share in a tower management company, according to a guideline of Bangladesh Telecommunication Regulatory Commission (BTRC). Mobile phone operators are not eligible to apply for the license, said a top official. Also, if a company holds shares in a mobile phone operator it has to dispose of the stocks before obtaining the license, according to the guideline. Currently, there are 35,000 telecom towers in Bangladesh and all of them are run by mobile phone operators. Once the full-fledged tower management companies come into being, the number of mobile towers will

go down to 25,000, which, experts say, will save land and energy, and cut operational expenses. The regulator has finalized the guideline in a commission meeting on June 29. The guideline will be sent to the government by this week for approval, said Sarwar Alam, spokesperson of the BTRC. The tenure of the license will be 15 years whereas license fees will be Tk 50 crore. The BTRC also proposed Tk 5 crore as annual fees, according to the guideline. Prime Minister's ICT Affairs Adviser Sajeeb Wazed Joy recently shared his suggestions with the telecom regulator on the guideline. Initially, the BTRC had planned to recommend 49 percent shares for foreign companies and 51 percent for local entities in a single license. Mobile phone operators and other telecom operators are setting up their own towers to expand network. Under the current system, all the operators are building infrastructure in a single place, leading to huge investment on their part as well as squeeze of valuable land. Edotco, a Malaysian tower management company, is already running tower business in Bangladesh with a no-objection certificate. It manages about 9,000 towers. Edotco is a sister concern of Malaysian telecom giant Axiata Group. Robi, the second-largest mobile phone operator of Bangladesh, owns about 20 percent shares in Edotco. According to the proposed guideline, Robi will have to shed its shares in Edotco if the latter wins a license. Mobile phone operators Banglalink and Grameenphone have showed interest to separate their network infrastructure from core telecom business. They have applied to the regulator seeking permission to set up subsidiaries to manage towers. A senior official of Banglalink said they are planning to sell all their towers and invest the proceeds to upgrade the network. Banglalink has 8,000 base transceiver stations.

(July 5, 2017) thedailystar.net

Total active internet connections crossed the milestone of seven crore in April -- a development that can be viewed as a pat on the back for the government's 'Digital Bangladesh' aspiration. "This landmark achievement is a matter of pride for us -- very few countries in the world have such huge volumes of internet connections," said Shahjahan Mahmood, Chairman of the Bangladesh Telecommunication Regulatory Commission. Of the total connections, 93.69 percent are through the mobile network, 6.17 percent through the internet service providers and only 0.14 percent through WiMAX that is available in cities. The industry crossed the six crore mark in August last year, five crore in August 2015 and four crore in September 2014. At the end of May, total active internet connections stood at 7.20 crore, according to the telecom regulator. Of the mobile operators, market leader Grameenphone has about 2.96 crore internet connections, Robi 2.18 crore, Banglalink 1.55 crore and state-owned Teletalk 4.48 lakh. The two WiMAX operators Banglalion and Qubee have 45,551 and 36,559 active internet users respectively. State-owned landline operator Bangladesh Telecommunications Company Limited has 21,021 internet connections. Mobile phone operators said the internet has become a basic need and the industry will see a good growth rate when the bandwidth prices decline. The top three mobile operators' quarterly financial reports also showed their data usage has grown but they said the unique internet user numbers are not increasing significantly. Currently, only about 20 percent of their subscribers are using the internet, the mobile operators said. However, based on its numbers, the BTRC said, as of now internet penetration stands at 44.43 percent. At the end of May, the total active mobile connections stood at 13.50 crore. If any SIM does not remain active for 90 days, it is considered inactive.

(July 2, 2017) thedailystar.net

Egypt

Telecommunications Minister Yasser al-Qadi said that the lowest internet speed will be four megabytes by end of 2017. In remarks during a visit to Kafr al-Sheikh, where he initiated several developmental projects, the minister said 47 percent of the lines have a speed that reaches up to more than four megabytes, while 53 percent have a speed at 16 megabytes. Qadi also noted a huge shift in services offered to citizens in Kafr al-Sheikh, as it reached the highest level of efficiency. Around 30,000 new users subscribed to data services in the governorate, he said. In related news, the minister denied rumors on the increase of mobile phone credit prices.

(July 3, 2017) egyptindependent.com

Iran

Telecoms Minister Mahmoud Vaezi inaugurated the country's first fiber optic telephone network in Tehran at the weekend. Mobile operators were given carte blanche in 2013 to upgrade to the latest 4G systems. Traditional telecom companies only recently signed contracts to replace aging copper lines with fiber optic cables. To show that the new network is part of a wider roll-out across the country, Vaezi used the opportunity to telephone regional officials in Bushehr, Zanjan and Tehran, which are among the targeted areas for expansion of the fiber optic network, Mehr News Agency reported. During the first phase of the national fiber optic installation, 50,000 users will be given access to the network. However, full access will be gradual due to the needs and complexities of retrofitting a city of more than 13 million people. The first phase of the fiber network should be operational by the end of the current year in March when the first 50,000 subscribers join up to the improved

service. The demonstration by Vaezi and private sector officials who have contracts to dig up the roads to lay the fiber optic cables comes as the country steadily increases Internet speed for landline users. The ministry intends to push the private sector to increase potential subscribers to 100,000 in the next fiscal that starts in March 2018, however, it remains to be seen if they can do so as homes and businesses will have to be refitted with new telephone points. The launch of the network is Iran's first move towards "the next-generation network (NGN)" which is a body of key architectural changes in telecommunication core and access networks. The general idea behind the NGN is that one network transports all information and services (voice, data, and all sorts of media such as video) by encapsulating these into IP packets, similar to those used on the Internet. NGNs are commonly built around the Internet Protocol, and therefore the term all-IP is also sometimes used to describe the transformation of formerly telephone-centric networks toward NGN. TCI joined hands with three foreign firms — Huawei and Fiber Home from China and Finland's Nokia — to expand its fiber optic network and launch Fiber to the Home (FTTH) services in Iran. Meanwhile, on May 9, South Africa's MTN said that it had agreed to invest an initial $300 million in fixed broadband provider Iranian Net and lend the company $450 million. Rob Shuter, CEO of MTN, signed the agreement in Tehran with Telecoms Minister Mahmoud Vaezi after months of discussion about the company entering the fixed-line Internet market. The long-awaited investment will give the South African firm a 49% stake in the company.

(July 17, 2017) financialtribune.com

Deputy Telecoms Minister Amir Hossein Davaie said establishing Internet of Things (IoT) in the country requires clear rules and efficient infrastructure defined by the ministry, urging the necessity of the government's involvement in the subject. IoT applications allow users to monitor everything from fridges to metro systems by connecting remote sensors with computers, mobile phones and smartwatches. "As long as the government does not play a major role in the matter and there are no clear rules and regulations, no window for implementing IoT would be opened," Davaie, who is the Deputy Minister for Technology & Innovation, was also quoted as saying by CITNA on the sidelines of an IoT workshop held in Tehran. Iran's Faculty of Information and Communications Technology hosted a three-day international workshop on IoT. The workshop was organized jointly by the International Telecommunications Union, the Faculty of ICT, Iran's Ministry of Communications and Information Technology and the Chinese Academy of ICT under the auspices of the ITU ASP COE. Davaie said the preliminary requirement to pave the way for establishing IoT in the country is improvement of infrastructures. "There are currently several firms and operators seeking to launch IoT in the country. However, they are facing piloting issues due to lack of infrastructure," he said. The Deputy Minister touched upon recent moves undertaken in the field, saying the Internet Protocol version 6, which is a necessity, is due to be launched by the end of the current Iranian year (March 20, 2018). IPv6 is the latest version of Internet protocols set to replace the current IPv4 protocol. The sixth version uses a 128-bit structure while the old IPv4 can only deliver a 32-bit structure for Internet communications. The development of machine-to-machine and Internet of Things technology can connect many devices such as mobile phones, cameras and even home appliances and digital picture frames. This has increased the need to improve the Internet protocol. Davaie noted that the biggest challenge in running IPv6 and IoT is the "security of users and data" and protecting their privacy, which should top the agenda. IoT, around the globe, is advancing business prospects and bringing new capabilities and efficiencies to companies to help them stay competitive. However, its great potential also comes with new opportunities for cybercriminals. A single cyberattack can inflict millions of dollars in damage. These threats are unfortunately inherent to IoT technology, which is reshaping almost every element of modern life, from driving cars to taking medication and adjusting the thermostat. Unlike data and privacy breaches, which threaten to compromise medical records and credit-card information, the security risks to IoT devices could have far greater consequences—for example, putting patients, automobile drivers and others at risk. Davaie noted that should the country be equipped with IoT technology, setting up proper standards for securing IoT devices is prioritized over all other factors.

(July 12, 2017) financialtribune.com

Lebanon

Ogero is upgrading the internet network to achieve higher connection speeds for the rest of the country by the year's end, Ogero President Imad Kreidieh said. "We are changing standards from ADSL to VDSL for everybody at 800 meters around our exchanges which will tap into 110,000 subscribers using the internet in Lebanon," he said at an event held. Endeavorize Lebanon, a global entrepreneurship event, aims at focusing on innovation and the private sector's role in creating opportunities. It also explores how to pave the way toward a more digitized community in Lebanon and the rest of the world. Kreidieh said Ogero's aim in the coming six months is to increase its reach by expanding its fiber and copper networks. "The expansion of the copper and fiber networks already started and the results of the bid are due today while work should start by September," he said. Kreidieh added that 4G LTE stations, which will offer very high internet speeds, will be deployed in remote areas instead of the wireless local loop. "This will happen before the end of this year," he said. He said Ogero has already made adjustments to the network and 55 percent of internet users have felt the difference in speed. "Around 55 percent of internet users were able to multiply their internet speed by 3 or 4 megabits per second while in some areas like such as Sidon and Zahle, we were able to move users from 4 Mbps to 18 Mbps," he said. Kreidieh said a large chunk of people had not yet experienced

a change and that this is due to various reasons, including subscribers being away from the exchanges, the status of the network or the cleanliness of the copper that is in place. "This is a lot of work to be done but we are getting there," he said. Kreidieh added that Ogero is currently working on an internet of things platform for the agriculture sector that will be available by the end of this year for the private sector to build applications and use. The internet of things allows farmers to use some high-tech farming technologies to improve the efficiency of their daily work. He said that last Friday an Ogero team went to Kefraya to work in coordination with a Lebanese company on putting sensors in the area, in a bid to monitor and gather data about the quality of soil, the temperature and the moisture. "The internet of things platform works on improving the quality of agriculture production and this exercise can be applied to all agriculture products," he said. "We are getting there." For his part, Emre Gurkan, CEO of touch, said that the Telecoms Ministry is planning to create a telecoms-driven fund. "There is no specific telecoms fund in the region yet. If you establish a fund dedicated to telecoms and you bring expertise from Zain or Alfa, I think a lot of new startups will see specific focus on telecoms," he said. Gurkan said the fund won't be managed by the Zain team because they are not fund managers. "We are telecoms operators and the new fund will be managed by venture capital professionals," he said. Gurkan emphasized the importance of digitization, saying it is essential nowadays. "If you do not digitize over the next five years you won't be able to exist," he said. He noted that Zain Group generated $26 million from digital initiatives by the end of 2016. "This is why we are pushing hard on the digital verticals," he said. "If you push hard on digitization, I think we have a big chance to see substantial revenues in three to five years." (July 26, 2017) zawya.com

Nepal

Nepal is likely to get internet connection through Chinese optical fiber from next month, ending India's monopoly over the online services in the landlocked Himalayan country. Nepal has relied on India for internet services for long as the country is optically connected with the southern neighbor through Bhairahawa, Birgunj and Biratnagar. However, the connection with China will end the monopoly of India in the supply of internet bandwidth. The long-awaited Internet connection from China is expected to be completed by the end of July as the work of laying optical fiber on the Chinese side has resumed. Nepal has already completed the task of laying optical fiber on its side for the connection. The task of laying optical fiber was about to be completed in early June. But it could not take place after an avalanche disrupted the work on the Chinese side, an official said. "Connection test was already conducted. Nepal would have already been connected with Chinese internet if the work was not halted in June," the official at the Nepal Telecom said. Shobhan Adhikari, deputy spokesperson for the Nepal Telecom, said that the local government of China had suspended the work of laying optical fiber after a worker collapsed due to high attitude sickness. Now the work has already resumed. "The work has resumed in full pace since the last week and if things go as per the plan, Nepal will be connected with the Chinese internet from the beginning of August," he added. Adhikari said that after the disruption of work by avalanche at the altitude of 4,000 meters on the Chinese side, the optical fiber was laid through an alternative route. "According to the Chinese company, the new route is almost 20 kilometers longer. The sudden change in the plan has delayed the project by almost a month," he added. Once the work to lay optical fiber is completed on the Chinese side, Nepal will test the connection and subsequently work on purchasing Internet bandwidth from the northern neighbour, Adhikari said. "With Chinese companies entering the Nepali market, users here will be able to enjoy internet at lower rates," he said. Meanwhile, China's state-run Global Times today said the Chinese internet services will be available from August 1 in Nepal, "ending India's bandwidth supply monopoly in the country." This is set to be a great boon to the South Asian nation, which is still rebuilding its shattered economy and infrastructure after a devastating earthquake in 2015, the paper said. While the report sought to project Indian internet services in poor light saying that they are erratic, it was silent whether Chinese internet services will be provided without the internet firewalls which restricts the free flow of online information especially anything related to China as popular social media like Twitter, Facebook and Google. The restrictive controls of the Chinese internet forced users especially foreigners residing in China to use the VPNs (virtual private networks) to circumvent the firewalls. China is making a concerted push into Nepal to blunt India's "monopoly" in the landlocked nation. It worked out a transit treaty with Nepal during the tenure of pro-China former Nepal Prime Minister K P Sharma Oli in last August and even agreed to build a rail link through Tibet. But the process of Chinese push into Nepal slowed down under the tenure of Prachanda who recently abdicated power allowing Sher Bahadur Deuba to take over as Prime Minister. While expanding its influence with massive investments, China is also enforcing strong curbs over the movement of Tibetans through Nepal specially to travel to Dharamsala to meet the exiled Tibetan leader the Dalai Lama.

(July 16, 2017) newindianexpress.com

Nepal's leading fixed telephony provider Nepal Telecom (NT) has begun switching its existing PSTN landline service to an IP-based network. In a statement the telco announced that Mahendra Man Gurung, Secretary of the Ministry of Information and Communications (MoIC) inaugurated the IP technology by making a call from NT's telephone exchange at Gwarko. The company transferred 4,246 PSTN lines to its IP network last week, with 134,000 more lines to be added in the coming two months. The statement from NT also noted that it intends to switch a total of 400,000 PSTN lines by the end of fiscal year 2017.

(July 10, 2017) My Republica

The telecommunication sector regulatory agency is introducing such a system after it received complaints from the public regarding ISPs not providing internet speed as per their agreement with ISPs. "We have received increasing number of complaints from subscribers saying that ISPs are delivering lower speed internet than that pledged to the customers. Similarly, subscribers have also lodged complaints about ISPs charging higher fees for internet services," said Min Prasad Aryal, spokesperson for NTA, adding that NTA will soon implement the mechanism to check internet speed and rates being charged by ISPs for internet services. According to Aryal, ISPs found to be breaching the agreement with subscribers in terms of internet speed and rates will be warned first and action will be taken if the erring ISPs are found to be cheating its subscribers repeatedly. Under the mechanism to check internet speed of ISPs, NTA will place a device, which has been named 'probe device' in the residence or office of subscribers who file complaint against ISPs. The device will automatically read the speed after being connected to the server of NTA. "As such device is fitted in subscribers' own areas, they would also be able to check the internet speed themselves," said Aryal. Though NTA already has a system in place to check the internet speed and internet rates of ISPs, it is outdated. In the first phase, NTA plans to fit the 'probe device' in around a dozen places in Kathmandu Valley to check the internet speed of ISPs. NTA has been aggressively working to improve telecom and internet service and the initiative to check the speed of internet being delivered by ISPs is a part of it, Bijaya Rai, chief of Service Delivery and Monitoring Department of NTA, said. NTA had launched a mobile application two weeks back aimed at collecting online feedback from customers on telecommunication services being delivered by domestic telecom operators. In a bid to regulate services being provided by domestic telecom operators following rising complaints on telecommunication services, NTA is also implementing new Quality Guidelines for telecom companies from July 16.

(July 2, 2017) thehimalayantimes.com

Pakistan

The telecom sector of Pakistan has undergone through huge transformations after the arrival of 3G and 4G services in the country. From the increase in mobile phone penetration to the launch of various m-Services; Pakistan's telecom sector has become a success story for some regional countries who are left behind in technological race. This is also evident from the recent stats announced by the PTA. Now as per the May, 2017 report figures of Pakistan Telecommunication Authority (PTA), the number of mobile internet subscribers reached a record figure of around 41 million by the end of May. MBB users set new record by achieving 41 million figure till May 2017. As evident from the above table, Jazz is leading the market in 3G race with more than 12 million 3G users. Whereas Jazz is on second number as far as the 4G/LTE subscribers are concerned with 89 thousands 4G users. Then comes, Telenor Pakistan while having more than 10 million 3G and 51 thousands 4G subscribers. Zong is the leader in 4G subscriber's race with around 3 million 4G users whereas it is 3rd in maintaining 3G users with more than 8 million. The growth of MBB subscription is more as compared to the overall cellular subscribers of Pakistan. Ufone's subscriber's base is declining with each passing day. Presently, being the only 3G operator in Pakistan, it has around 4 million 3G subscribers. These stats clearly shows that the growth in Mobile Broadband (MBB) subscription had outpaced the growth in mobile phone subscription which are 140 million by the end of May, 2017. This growth rate is no doubt phenomenal which means that Pakistan will be in a good position to launch 5G by the end of 2020.

(July 4, 2017) phoneworld.com.pk

Jazz has been given formal license for its recent spectrum acquisition. A ceremony will also be held by PTA, where PTA Formally Awards 1800 MHZ Spectrum to Jazz. It seems that Jazz is trying to maintain its leadership position in the growing mobile market to maintain its position in Pakistan. Pakistan is also the second largest market for VEON and for that reason not only it led them to the historical merger with Warid quite recently but the changes in the company speaks volume of the Group growing interest. With the additional 4G spectrum, Jazz will be able to compete more aggressively in the mobile broadband market of Pakistan. Presently, Jazz uses three frequency bands i.e. 900, 1800 and 2100 MHz. For Data, it uses 10 MHz of the 2100 MHz for 3G and for 4G it has re-farmed 1800 MHz of Warid. Now, technically, Jazz will start working on aggregating the carriers to further improve the network data rates and the digital service portfolio. Jazz enjoys the largest number of spectrum available and also has the highest number of subscribers. The operator is seen striving to further improve its services by utilizing this additional spectrum of 10 MHz and maintain its market position. Jazz is leading the Pakistani mobile market with around 55 million overall cellular subscribers. Whereas, Telenor was close to Jazz 3G subscribers until Jazz merged with Warid. But Telenor has 40 million subscribers out of which there are 10 million 3G and 0.3 mln 4G users. Zong, has 28 million users but it is leading the 4G market due to its 3 million subscriber's base. At fourth place we have Ufone with 18 million overall users out of which only 4 million are 3G subscribers; this figure is decreasing due to its small chunk of 5 MHz band of 3G. Jazz has made an extraordinary move as it moves closer to getting the additional 10 MHz that will help it further grow and lead the fast growing mobile industry of Pakistan.

(July 2, 2017) phoneworld.com.pk

Sri Lanka

Huawei unveiled their new Office in concurrence with the establishment of Customer Solutions Innovation and Integration Experience Center (CSIC). The establishment of CSIC is one of Huawei further contributions to support Sri Lanka's digital economy. The opening was patronized by Chief Guest, Harin Fernando, Minister of Telecommunication and Digital Infrastructure, Yang Zuoyuan, Economic and Commercial Counsellor of the Chinese Embassy in #SriLanka and other government officials. The newly-opened Huawei Customer Solutions Innovation and Integration Experience Center (CSIC)is a state-of-the-art center that enable customers to experience, architect, validate and build ICT solutions. CSIC is built on the concept of cloud and leading IT infrastructures, where customers can develop innovative ICT solutions, share Huawei global best practices and exchange ideas. It serves as a platform that enables joint innovation with customers based on their demands and business environments. The CSIC is state-of-the-art center is furnished with 4K video, public safety demonstration devices, 120 global show cases for business, technology and society. The center has been formulated with the aim of providing customers with an opportunity to experience, plan, authenticate and build ICT solutions. Minister of Telecommunication and Digital Infrastructure Harin Fernando said, 'As we progress to develop #SriLanka to be a digitally empowered nation, the role of information communications technology becomes even more vital. The launch of the Huawei Customer Solutions Innovation and Integration Experience Center would further help us to innovate as we work together to bridge the digital divide and help the citizens enhance their living standards and quality of life.' He further added, 'Huawei is the first global high technology company to establish an innovation center in #SriLanka which will support ICT development in Sri Lanka. I very much appreciate and praise the efforts for the further contribution by Huawei. I visited Huawei headquarters and I am very impressed about Huawei campus and innovation capability. Huawei spend over 10% from sales revenue for R & D every year. Huawei Customer Solutions Innovation and Integration Experience Center (CSIC) in Colombo is a great platform where we can develop innovative ICT solutions. I wish more youth and students can visit the centre and witness how a global ICT company innovates'. Chinese Ambassador Yi Xianliang said:' The establishment of CSIC is the connections with the MOU that #SriLanka government signed with Huawei during Hon. Prime Minister and I visited Huawei Headquarter in #China last year. As a global leading ICT company, Huawei's value and contribution will support ICT development in Sri Lanka. ' Commenting on the opening, Shunli Wang Huawei #SriLanka CEO said, 'The establishment of CSIC is one of Huawei further contributions to support Sri Lanka's digital economy and ICT development following the national broadband forum and Seeds For the Future program we organized last year. We are willing to share our global best practice and experience and work with the stakeholders to make innovations and support #SriLanka to be a digitally empowered nation. We keep innovation and exploring new possibilities to drive the progress, and be openness to tap into collective wisdom.' Huawei focused on the carrier networks, enterprise, consumer, and cloud computing fields. Huawei products and solutions have been deployed in over 170 countries, serving more than one third of the world's population. Huawei began its operations in #SriLanka in 2005. At present, Huawei works with Sri Lankan operators to provide network service for about 70% population in Sri Lanka. Huawei's smartphone are well welcomed by #SriLanka consumers. (July 3, 2017) menafn.com

South Sudan

The South Sudanese government has announced the launch of a new telecoms company, Niletel, in which the state holds a 25% stake and Sudan-based business group Ashraf the remainder. Niletel says it is rolling out a 4G LTE platform to deliver reliable voice and data services across the country, as well as a range of other products including telemedicine, e-learning and Internet of Things (IoT) applications. It plans to begin offering commercial services in major cities within the next eight months, followed by smaller towns and villages, with a view to covering the whole country within five years. The launch comes at a time when the country is battling an economic crisis and ongoing civil war, which has forced existing telecoms operators, including South Africa-based MTN Group and Kuwait's Zain Group, to scale back their operations in some areas of the country. 'We are launching Niletel at a time when other companies are at the verge of collapsing but we will continue to render services to the people of South Sudan because all the other companies are privately owned and we don't have a say in those companies. But with Niletel, we are partners and will have a say to render better services to the people,' government spokesman Michael Makuei told journalists in Juba. (July 21, 2017) Xinhua

Tunisia

Senior officials from telecom providers Tunisie Telecom (TT), Orange Tunisia, Ooredoo Tunisia and Lycamobile Tunisia, and sector watchdog the National Telecommunications Authority (Instance Nationale de Telecommunications, INT) have signed a 'Service Level Agreement' for fixed and mobile number portability (FNP and MNP). The agreement details quality of service (QoS) requirements related to MNP and FNP, as well as penalties for not conforming to the obligations.

(July 18, 2017) telegeography.com

United Arab Emirates

The Telecommunications Regulatory Authority, TRA, in cooperation with the Prime Minister's Office, has hosted the first meeting of the Executive Team of Smart Government Services, which emerged from the annual meetings of the UAE Government, launched by Vice President, Prime Minister and Ruler of Dubai, His Highness Sheikh Mohammed bin Rashid Al Maktoum. The team is responsible for assessing the smart services situation in the country, their mechanisms, provision channels, and ways to upgrade them with the aim of developing smart government services and enhancing the competitiveness position of the UAE on global level, to reach the desired goal of making the best of these services in order to achieve customers' happi ness.In his opening speech, Majed Sultan Al Mesmar, Acting Director-General of the TRA, said, "We are meeting today in response to the directives H.H. Sheikh Mohammed bin Rashid Al Maktoum, Vice President, Prime Minister, and Ruler of Dubai, in preparation for the first session of the annual meetings aimed at uniting government work as a single system at the federal and local levels, to discuss a development vision for the UAE's centennial 2071, based on the historical lecture of His Highness Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces, which addressed the future generations in March." Speaking about the business facilitation project, Al Mesmar said that the project was highlighted due to its importance in light of next phase features. Recalling the launch of a set of future directives by H.H. Sheikh Mohammed bin Rashid, Al Mesmar said that the directives, including quality, connectivity, satisfaction and utilization, must be implemented collectively. "If we add to these elements the principle of economic sustainability, which is at the core of the current Future Government's policy, we would recognize the exceptional importance of facilitating business establishment as a practice that enhances UAE leadership as well as the good reputation of our country on the global level, and contributes to our country's central position on the global investments map," he continued. Muna Al Dhabbah, Director of Government Service Development at UAE Prime Minister's Office, said, The main objectives of the Executive Team of Smart Government Services are to review progress towards achieving the UAE Vision 2021 and the National Agenda Indicators, in addition to providing a platform for bringing together federal and local government entities to discuss the outcomes of the government work, achieving compatibility between federal and local strategic plans, enhancing and coordinating their collaboration, and initiating the planning process for the UAE's centennial 2071." Digital economy, the interdependence and integration of infrastructure, smart cities and internet of things, big data and its analysis, and smart applications are the most important current global trends that determine the quality and future of smart services, she added. (July 17, 2017) zawya.com

REGULATORY ACTIVITIES BEYOND THE SAMENA REGION

Austria

The Regulatory Authority for Broadcasting and Telecommunications (Rundfunk und Telekom Regulierungs, RTR) has launched a consultation on the award procedure for frequencies in the 3.4GHz-3.8GHz range, paving the way for the development of 5G mobile communications in the country. The aim of the consultation is for the RTR to develop, together with the market participants, the best possible allocation method and procedure for the frequency range, including auction conditions, spectrum caps and supply obligations. The watchdog has proposed the allocation of 190MHz of spectrum in the 3410MHz-3600MHz range and 200MHz in the 3600MHz-3800MHz band. The RTR has invited interested parties to submit their input and comments on the matter by September 15, 2017, with a view to conducting the spectrum auction in the second or third quarter of 2018. (July 17, 2017) telegeography.com

Cambodia

The telecom regulator has urged mobile phone network operators to be more transparent on the fees they charge subscribers on opt-in services and to ensure that users are not charged for services they have not requested. In Vutha, spokesman of the Telecommunication Regulator of Cambodia (TRC), said yesterday that while the TRC has not received any official complaints from consumers, it issued a notice to mobile network operators earlier this week in response to numerous complaints aired on social media. "Even though we did not receive any official complaints from subscribers, we needed to take action to prevent future conflicts," he said. "We noticed a lot of complaints on social media from subscribers claiming that their credit had been deducted without their confirmation for accessing extra services." He said subscribers had complained that mobile network operators were deducting hidden fees for ringtones and missed called alerts, or for credit given to subscribers until their next top-up. Subscribers have also reported being charged for inputting incorrect codes. "Subscribers have complained and are angry over unreasonable credit deductions," Vutha said. "We need all the network operators to look into it and to request confirmation from subscribers before giving them access to extra services." According to the TRC notice, mobile network operators should inform subscribers of applicable fees and request their confirmation before adding a service. They should also provide a full list of codes for opt-in services, as well as disconnection instructions.
(July 2, 2017) phnompenhpost.com

China

The information and communication industry is continuing to develop rapidly, Zhang Feng, spokesperson and chief engineer of the Ministry of Industry and Information Technology (MIIT), said at a press conference. Significant progress has been made in speeding up China's Internet and reducing fees for telecom services, Zhang said, while broadband take-up is increasing fast. Annual goals have already been met in two areas: coverage of families with stable broadband Internet has reached 67 percent, while 77.4 percent of the total population are now mobile and broadband users. As of May, China's fixed broadband had over 300 million home subscribers, while mobile broadband users had exceeded one billion. Measures to reduce Internet fees have also been implemented. China's three telecom operators have slashed fees for international calls, while dedicated Internet access charges have been reduced by more than 15 percent. Business-dedicated Internet access and miniaturized broadband customized for middle and small-sized enterprises have been launched. Revenues for the telecom industry in the first quarter of 2017 were up 5.7 percent compared to the same period last year; Internet and related services enjoyed a 19.8-percent boost, while there was a net increase of 120 million in 4G users, totaling 890 million, or 65 percent of all mobile users. Cable users reached 80.9 percent. MIIT announced in January that any institution or individual without the proper license to engage in telecom business internationally will be punished. A license is required to rent international Internet access or the use of VPN to profit from telecom business activities legally, Zhang said. However, the regulation does not affect domestic and offshore corporations or large Internet users within China from visiting overseas websites and engaging in other legal business activities, Zhang added. Foreign trade enterprises and transnational enterprises that need dedicated Internet access for cross-border networking can rent from telecommunication service operators who legally set international communication access, and won't be affected by the regulation either. Besides dedicated Internet access and VPN, enterprises who want to engage in basic telecommunication services or added-value telecommunication services must also obtain approval from the government,

said Zhang. The regulation is designed to guarantee secure and reliable operation for enterprises and provide good, safe and long-term services for consumers, he added. It is common in many countries to stipulate that relevant businesses must apply for licenses in accordance with the country's laws and regulations, said Wen Ku, director of Department of Communications Development of MIIT. He added that MIIT will pay close attention to the needs of the public, while noting that Chinese law forbids the spread of threatening information or information related to violence and terrorism. The construction of a high-speed broadband network has been continuously promoted. Up to the first half of 2017, cities throughout China have been built into urban optical network with a total of 2.99 million 4G base stations. China's efforts to build faster and more affordable networks have also boosted the development of the country's digital economy. China's digital economy reached 22.6 trillion yuan (about 3.35 trillion U.S. dollars) in 2016, accounting for 30.3 percent of the country's GDP. It has become a core power to drive economic growth, making an increasing contribution to China's GDP. China's three major telecom operators have made great efforts to upgrade the Internet speed to serve the public better, especially in terms of digital economy, added Wen. (July 26, 2017) www.ecns.cn

Costa Rica

Telecoms watchdog the Superintendency of Telecommunications (SUTEL) has completed its auction of spectrum in the 1800MHz and 1900MHz/2100MHz bands, awarding a total of 70MHz to Movistar Costa Rica and Claro Costa Rica. The tender raised USD43 million for the regulator, which stated that the proceeds would be used to finance network expansion programmes – targeting in particular coastal, rural and border areas as well as vulnerable populations – via the National Telecommunications Fund (Fondo Nacional de Telecomunicaciones, Fonatel). Of the seven 2×5MHz blocks available, Movistar secured four, paying a total of USD24 million for two blocks each in the 1800MHz and 1900MHz/2100MHz bands. Claro, meanwhile, also won two 1800MHz blocks but just a single 1900MHz/2100MHz block with a bid of USD19 million. The two cellcos, owned by regional heavyweights Telefonica and America Movil (AM) were the only providers cleared to participate in the tender. Tigo Star had considered bidding for spectrum with a view to entering the mobile market, but ultimately chose not to take part in the sale. Commenting on the results, Sutel's president Gilbert Camacho noted: 'This auction will enable mobile telecommunications operators to strengthen and expand the capacity of existing mobile networks, so that the user can count on greater access to next generation networks that provide higher speeds and better coverage.'

(July 20, 2017) telegeography.com

Czech Republic

The Czech Telecommunication Office (Cesky telekomunikacni urad, CTU) has reportedly concluded a review of CDMA licensing at 450MHz (451.3MHz–455.74MHz/461.3MHz–465.74 MHz) to assess whether it needs to retain a cap on the number of licenses issued within this band and whether it needs to reassess the relevant frequency fees O2 Czech Republic intends to apply to continue using the frequencies when its CDMA license expires in February 2018, opting instead to launch LTE-450 services in future. In its conclusion, the CTU has said it will retain a cap on the number of licenses issued in the 450MHz band, noting that O2 CR still provides broadband services covering more than 90% of the population in this band, even though the number of services provided using the technology is decreasing. Furthermore, the CTU has adjusted the cost of the 450MHz license, and will invite O2 CR to apply for a license extension by August 8, based on the price range – between CZK127 million and CZK323 million (USD5.6 million to USD14.2 million) – set by the review. (July 14, 2017) telecompaper.com

The regulator CTU announced the end of the auction for frequencies in the 3,600-3,800 MHz band. The successful bidders in the auction include two established mobile operators, O2 Czech Republic and Vodafone Czech Republic, and two new companies, Nordic Telecom 5G and PODA. The established operators could win a maximum 40 MHz spectrum, while the spectrum cap for new entrants was set at double that amount. Nordic Telecom 5G, which is part of the former CDMA operator Ufon, won two blocks for a total of 80 MHz, and the other operators won one block each. PODA is already active on the fixed market and has said it wants to challenge the three incumbent mobile operators by building its own wireless broadband network. There were in total six applicants in the auction; the companies Suntel Net and T-Mobile Czech Republic did not succeed with their bids. Each of the five blocks was auctioned for CZK 203 million (EUR 7.8 million), which is seven times more than the reserve price. The auction generated in total CZK 1.015 billion. The licenses shall be awarded immediately after the successful bidders pay the amount. (July 12, 2017) telecompaper.com

El Salvador

The Electricity and Telecommunications Superintendency (Superintendencia General de Electricidad y Telecom, SIGET) has reached an agreement with CTE Telecom Personal (Claro) to renew the mobile operator's license for a further 20 years. El Mundo reports that the concession authorizes the America Movil (AM) subsidiary to utilize 30MHz of spectrum for the provision of wireless services. Earlier this year, market leader Telemovil, which operates under the brand name Tigo, said it was also in talks with the government over the renewal of its wireless spectrum licenses, which are set to expire next year.
(July 6, 2017) telegeography.com

Finland

The Ministry of Transport and Communications (Liikenne-ja viestintaministerio, LVM) has announced that it has started the preparation of a national broadband strategy that will define both the nation's broadband targets for the years 2025 and 2030, and the means to achieve these. In a press release, the Ministry noted that the strategy will be technology neutral, promoting the construction of both fiber-optic and wireless broadband connectivity. Specific targets for the coverage and speed of broadband connections are also expected to be set as part of the strategy, while it will also 'define the measures for reaching the speed and availability targets'. With a stakeholder forum regarding the plans expected to take place later this year, Finnish Communications Minister Anne Berner said of the plans to create an updated national broadband strategy: 'Reliable high speed connections are already now a necessity in our daily lives and business operations. In future, our capacity needs will grow exponentially as a result of the rapid increase in digital business operations, digital public services and recreational activities. The strategy will be designed to meet the needs of those using high speed connections in future.'
(July 13, 2017) telegeography.com

France

The telecoms regulator ARCEP has launched a public consultation on the planned allocation of spectrum in the 3.5GHz band for fixed wireless services in areas currently not scheduled to benefit from fiber-to-the-premises (FTTP) investment. The regulator is looking to obtain feedback from stakeholders on the proposed allocation procedures for the 3410MHz-3460MHz band and a draft decision on limiting the use of the 3410MHz-3460MHz band in Metropolitan France for the supply of fixed access services. The consultation document specifies the obligations attached to the deployment of fixed LTE services, with operators required to deliver down/upload speeds of at least 30Mbps/5Mbps. All interested parties are invited to submit their comments by September 7.
(July 18, 2017) telegeography.com

Germany

The Digital Infrastructure Minister, Alexander Dobrindt unveiled the country's 5G strategy, which fleshes-out plans to roll out a "high-quality" wide area network by 2025. The country's regulator already earmarked some of the spectrum it plans to use to enable the new service, with further frequencies set to be allocated by the end of 2018. In a statement, the German Ministry responsible for the rollout – the Bundesministerium fur Verkehr und Digitale Infrastruktur – said its new strategy would make Germany the innovation leader in 5G. The document outlines plans to test a range of smart city use-cases across several – as yet unidentified – urban areas, with applications invited from local authorities. It also states "powerful fiber" should be used to connect mobile base stations, and a range of federal assets ranging from government buildings to traffic lights, are to be used to house infrastructure. Announcing the release of the 27-page 5G-Strategie fur Deutschland, Dobrindt – Germany's Federal Minister of Transport and Digital Infrastructure – said: "5G is the foundation of the gigabit company. With the super-fast mobile phone standard we give the starting shot for the digital real-time age." "We are the first country to present a comprehensive 5G strategy. We want Germany to provide a high-performance 5G network by 2025. We are pushing the grid rollout, providing frequencies and testing 5G in cities and municipalities." He added the approach will "put Germany at the forefront and create the foundation for digital value creation."
(July 13, 2017) mobileworldlive.com

The German regulator has suspended the launch of a law obliging German telecom companies to keep telephone and Internet data for up to 10 weeks to help fight crime, citing a court ruling. The data retention law, which had been due to come into effect on Saturday, requires companies to keep data on the timing and duration of telephone calls, as well as online traffic through IP addresses. Location data from mobile phones is to be stored for four weeks. A German administrative court ruled last week that storing location and connection data, without a justifiable reason such as suspicion of crime, ran contrary to European Union law. Regulator Bundesnetzagentur said it would not force telecoms

to store such data until legal proceedings surrounding the law had been concluded, and would not fine them for failure to store the data for the time being. In 2014, the European Union's highest court overthrew a rule that required telecoms companies to store the communications data of EU citizens for up to two years on the grounds it infringed human rights. In 2010, Germany's Constitutional Court blocked a law requiring storage of all data for six months. Privacy is a particularly sensitive issue in Germany because of the surveillance by the Gestapo in the Nazi era and by communist East Germany's Stasi secret police.
(June 28, 2017) reuters.com

Ghana

The Minister for Communications, Ursula Owusu Ekuful has said that the government has no plans to reduce the cost of 4G LTE spectrum licenses for operators in the country, writes Citi Business News. Vodafone Ghana CEO Yolanda Cuba had argued earlier this year that the price should be reduced after MTN Ghana acquired its 4G license at a price of USD67.5 million. Mrs. Owusu Ekuful reiterated that the government would not lower the cost of the 4G LTE license and that companies wishing to acquire a license must consolidate in order to afford the price: 'I have indicated in the meetings I have had with the operators that consolidation is the way to go, and we would actively promote any effort to consolidate their operations and build more synergies instead of going for loans and incurring the huge capital outlaw which the industry demands.'
(July 11, 2017) telegeography.com

Hong Kong

The Director General of communications Eliza Lee Man-Ching vowed to put the territory at the forefront of 5G following a swift spectrum allocation process. In the interview, Man-Ching said Hong Kong would be in the "fast lane" for 5G services and bands would be allocated as soon as the International Telecommunications Union had finalized its universal 5G spectrum specifications. She added launching 5G hastily would be of no benefit to operators or consumers. Comments follow criticism from HKT, Hong Kong's largest operator, on the Government's policy for spectrum allocation. The company has raised frequent questions on the issue and warned in December the territory risks "becoming a third-class citizen in mobile service development" by delaying 5G. In March, the Communications Authority announced it would open up spectrum in the 26GHz and 28GHz bands in 2019 and in the 3.4GHz to 3.7GHz band in 2020. It also plans a public consultation in the second half of 2017 on vacating spectrum currently used by satellite services. Following the release if its timetable, HKT said the Government was moving in the right direction, but reiterated concerns the process was not moving quickly enough.
(July 25, 2017) South China Morning Post

Hong Kong's Communications Authority has approved the takeover of local broadband and pay-TV provider i-Cable, while also renewing the firm's operating license. In May this year i-Cable shareholders voted to accept a rescue plan by the Forever Top consortium, which is led by Henry Cheng Kar-shun, chairman of New World Development, and David Chiu Tat-cheong. i-Cable will issue shares to raise HKD669 million (USD85.8 million) to meet its investment commitments to the government and fund ongoing operations. Current majority shareholder The Wharf Holdings will receive i-Cable shares worth HKD300 million to repay money it loaned to the company, but it will not participate in the share issue, with Forever Top taking over its majority interest.
(July 24, 2017) telegeography.com

Hungry

About 2.7 million prepaid SIM cards of the total of 4 million were registered and identified by Hungarian operators by the 30 June deadline, according to local telecommunications authority NMHH. Operators cancelled the contracts of pre-paid subscribers who failed to provide identification data required by new legislation. However, the authority said end-users can keep their numbers and their balances if they sign a new contract. According to NMHH's new rules related to prepaid SIM cards, service providers had until 30 June to review existing agreements and identify their existing subscribers. (July 6, 2017) telecompaper.com

Iceland

- Telecoms watchdog the Post and Telecom Administration (Post-og Fjarskiptastofnun, PTA) has issued licenses for LTE-suitable frequencies in the 700MHz, 800MHz, 2100MHz and 2600MHz bands. Four companies – Vodafone Iceland (Fjarskipti), Nova, Siminn and Yellow Mobile – participated in the regulator's tender (which ended in May), with a total of ISK159.8 million (USD1.6 million) raised from the sale. Twelve blocks of technology-neutral spectrum were awarded as follows:
- Fjarskipti: Blocks D2 (837MHz-842MHz/796MHz-

801MHz), valid for 15 years; F (1970MHz-1975MHz/2160MHz-2165MHz), valid until March 30, 2022; and I (2520MHz-2540MHz/2640MHz-2660MHz), valid for 15 years
- Nova: Blocks C2 (832MHz-837MHz/791MHz-796MHz), valid for 15 years; G (1975MHz-1980MHz/2165MHz-2170MHz), valid until March 30, 2022; and J (2540MHz-2550MHz/2670MHz-2680MHz), valid for 15 years
- Siminn: Blocks A (713MHz-723MHz/768MHz-778MHz), valid for 15 years; B (723MHz-733MHz/778MHz-788MHz), valid for 15 years; E (1935MHz-1940MHz/2125MHz-2130MHz), valid until March 30, 2022; and H (2500MHz-2520MHz/2620MHz-2640MHz), valid for 15 years
- Yellow Mobile: Block L (2560MHz-2570MHz/2680MHz-2690MHz).
- The authorizations for spectrum in the 700MHz and 800MHz bands include an obligation to offer high-speed mobile broadband to 99% of 'built-up areas' and to cover 14 new locations.
- (July 17, 2017) telegeography.com

India

Debt-laden wireless provider Reliance Communications (RCOM), has reportedly approached the telecom ministry to request permission to return a portion of its 1800MHz spectrum holdings. The cellco is hoping to surrender 'small quantities' of airwaves in four circles – Mumbai, Karnataka, Haryana and Punjab – with a view to avoiding paying the remaining instalments for the spectrum and has requested a refund for some of the payments it has already made. The frequency in question is understood to refer to four 2×0.6MHz blocks of spectrum purchased by the operator in the February 2014 and March 2015 auctions. The Mumbai airwaves (Feb-14) were priced at INR1.63 billion (USD25.2 million), whilst the frequencies in Haryana, Karnataka and Punjab (all Mar-15) cost the cellco INR280 million, INR1.11 billion and INR426 million respectively. The report follows an agreement from RCOM's lenders to grant the cellco a 'standstill' until December 2017 – during which it will not need to service its loans, and its debts will not accrue interest – to allow the operator to complete several transactions that will more than halve its debt burden of INR450 billion.
(June 30, 2017) The Economic Times

Kenya

According to Kenya's Communications Authority (CA), the East African nation recorded a total of 39.15 million mobile subscribers at March 31, 2017, an increase of 2.0% from 38.37 million twelve months earlier. Safaricom accounted for the majority of total wireless customers (28.13 million) at the end of Q1 2017, followed by Airtel Kenya with 6.39 million and Telkom Kenya with 2.80 million. The market's three MVNOs, Finserve Africa (Equitel), Sema Mobile and new entrant Mobile Pay, which launched in the first three months of 2017, accounted for 1.73 million, 295 and 86,724 customers, respectively. Mobile data subscriptions rose from 24.71 million at 31 March 2016 to 25.52 million twelve months later, with growth attributed to the increased affordability of smartphones and data bundles offered by service providers. Safaricom accounted for 74.9% of total mobile data subscriptions, followed by Airtel with 18.1%, Telkom with 6.0% and Finserve Africa (Equitel) with 0.7%. The CA reported 183,194 fixed broadband subscribers at March 31, 2017 (an increase of 31.3% from 139,514 a year earlier), including 95,976 cable modem internet users, 48,040 fiber-optic connections, 36,104 fixed-wireless data accesses, 2,452 DSL users and 622 satellite customers. Kenya ended the period under review with a total of 72,259 fixed line and fixed-wireless telephony lines in service, a decrease of 12.4% from 82,458 at the end of March 2016.
(July 7, 2017) telegeography.com

Kosovo

In a flurry of activity, Kosovo's telecoms watchdog, the Regulatory Authority for Post and Electronic Communications (Autoriteti Rregullator i Komunikimeve Elektronike dhe Postare, ARKEP), published five decisions last week, including opening up public consultation on three amendments to existing regulations, revolving mainly around net neutrality. All three consultations last from July 7 to August 21, 2017. Decision No.1029, 046/B/17 opened the public consultation on a proposed change to Regulation No. 20 on the Quality of Electronic Communications Services. The amendment looks to provide customers with greater clarity regarding the download speed they can expect from their broadband plans. ARKEP has proposed including definitions for minimum, maximum and 'usual' speeds, referring respectively to the lowest download speed guaranteed for a particular service plan, the speed advertised by the ISP for the plan, and the typical speed that customers could expect to experience. Under the updated rules, operators would have to guarantee minimum data transfer rates of no less than 20% of the maximum or advertised rate for fixed networks, whilst download speeds for mobile broadband must be greater than 256kbps. In order for ARKEP to monitor compliance with the rules, ISPs

would be required to submit their expected minimum, maximum and average speeds for 2018 by February 1, 2018. The providers must then measure internet access speeds for 2018 – using a methodology specified by the watchdog – and submit the data to the regulator by February 1, 2019. Decision No.130, 047/B/17, meanwhile, invites comments regarding more wide-ranging amendments to Regulation No.25, Regulations on General Authorizations. The amendment chiefly concerns the implementation of net neutrality measures, enshrining consumer's rights to non-discriminatory access and detailing the traffic management measures permitted for operators. Also included in the amendment is an update to reflect Kosovo's recent allocation of its own international direct dialing code (IDD). Whereas previously operators were instructed to use the National (NSPC) and International Signaling Point Codes (ISPC) agreed via commercial agreements with other providers, under the amended rules NSPC, ISPC and Mobile Country Codes (MCCs) will be assigned to operators by the regulator. Decision No.131, 048/B/17 opens public consultation on changes to Regulation No.28 for Contracts, Transparency and Disclosure of Information and Other Safeguards for End Users for the Provision of Electronic Communications Networks and Services, and looks to update the regulations in line with the aforementioned amendments. As such, ARKEP has proposed introducing a new article covering requirements relating to net neutrality issues, and obligations for ISPs to disclose minimum, maximum and typical download speeds for plans within customer contracts. Finally, the last two decisions (No.132 and No.133) concern the allocation of a block of 100,000 numbers to MVNO Dardafone (which offers services under the Z Mobile brand), and the postponement of ARKEP's market analysis of wholesale access to broadband infrastructure.
(July 12, 2017) telegeography.com

Latvia

Telecoms watchdog the Public Utilities Commission (Sabiedrisko Pakalpojumu Regulesanas Komisija [SPRK]) has accepted a request from wireless provider Tele2 Latvia to extend its spectrum usage rights in two bands. The expiry of Tele2's license for 5MHz of spectrum at 1905MHz-1910MHz was postponed from January 1, 2018 to June 28, 2020, whilst the end of its concessions for 2×20MHz at 1960MHz-1980MHz/2150MHz-2170MHz was pushed back from 1 January 2027 to December 31, 2027.
(July 18, 2017) telegeography.com

The telecoms watchdog the Public Utilities Commission (Sabiedrisko Pakalpojumu Regulesanas Komisija [SPRK]) has published a consultation document regarding its planned auction of spectrum in the 3400MHz-3450MHz and 3650MHz-3700MHz bands. The regulator has invited stakeholders to submit their comments on the proposals by 4 August 2017. The auction is due to be completed by no later than December 12, 2017. In a separate development, Latvijas Mobilais Telefons (LMT) is planning to launch commercial 5G services as early as 2020. The cellco's President and Chairman Juris Binde was quoted as saying that it was in the process of upgrading its infrastructure for the new technology. The official stressed, however, that the new platform would be used for industrial rather than consumer use, highlighting its potential applications for the emergency services and medical industry, amongst others. (July 5, 2017) Dienas Bizness

Malta

The Competition and Consumer Affairs Authority (MCCAA) has begun a more in-depth investigation into the proposed merger of domestic operators Vodafone Malta and Melita, which was announced in May this year. The phase-two study has been prompted by concerns from parties such as rival operator GO, which claimed that the tie-up could harm competition. Malta Today quotes a GO spokesperson as saying: 'The proposed takeover of Vodafone, in a critical sector such as telecommunications, is unprecedented as it reduces the number of major competitors in the market down to two. This would be, by far, the largest market concentration in Malta's history and, unless it is properly implemented and adequate remedies and safeguards are provided for, it could have very far-reaching and long-term implications and negative outcomes for consumers and ultimately for the whole country.' Vodafone responded in a statement by saying: 'Vodafone Malta believes that the merger will produce an entity with the necessary scale to be able to compete with GO much more effectively than the two entities can on their own. A merger is the only means by which this can be achieved.' If the deal is approved, the enlarged firm will be 51% owned by Melita's shareholders, Apax Partners and Fortino Capital, while Vodafone Europe – a wholly-owned subsidiary of UK-based Vodafone Group – will hold the remaining 49%.
(July 13, 2017) Malta Today

Mexico

Mexico's Federal Telecommunications Institute (Instituto Federal de Telecomunicaciones, IFT) has confirmed plans to seize a 190MHz block of spectrum in the 2500MHz-2690MHz range from TDS Comunicaciones, which was licensed to provide pay-TV services in La Paz, Los Cabos, Comondu and Mulege (all Baja California). TDS has 90 days to notify its subscribers, and migrate them onto other platforms. Justifying the decision, the IFT said that the poor distribution of frequencies was 'hindering the provision of new services'. Going forward, the watchdog intends to auction the spectrum for 4G use.

(July 12, 2017) telegeography.com

America Movil (AM) has confirmed that its Mexican mobile subsidiary, Telcel, has closed the indirect acquisition of the right to 'use and exploit' approximately 60MHz of spectrum in the 2.5GHz band, pursuant to the agreement between Telcel and Grupo MVS dated November 28, 2016. It is believed that the frequencies in question were previously used for a now-defunct fixed wireless access (FWA) network, which was operated between 2006 and 2011. According to unconfirmed media reports the concession technically expired on December 31, 2016. In May this year the Federal Telecommunications Institute (Instituto Federal de Telecomunicaciones, IFT) authorised Telcel's previously announced acquisition of 60MHz of 2.5GHz spectrum, from DIGICRD (formerly known as MVS Multivision). The acquired spectrum covers 1,575 localities, equivalent to coverage of 75.41% of the national population. The watchdog noted that the deal means that Telcel now holds 29.77% of the country's mobile-suitable spectrum.

(July 10, 2017) telegeography.com

Namibia

Earlier this week, the Communications Regulatory Authority of Namibia (CRAN) met with representatives of the telecommunications industry in a consultative meeting to discuss the proposed regulations for tariff limits, and another set of regulations to resolve disputes. In a statement released after the consultations, CRAN said "The proposed regulations prescribing tariff limits for telecommunications services will apply to licensees that are deemed to be dominant operators in the market for national data transmission and for those operators who provide telecommunications services for the pre-arranged connectivity in the form of leased lines. The Regulations apply to managed and unmanaged transmission services (independent of the protocol used such as PDH, ATM or Gigabit Ethernet)." "The purpose of these regulations is to prescribe price caps, which licensees may charge for leased line and other pre-arranged connectivity" said Festus Mbandeka, the regulator's Chief Executive Officer. "CRAN increased the price caps with inflation from the original cost study which was completed in 2015 due to the fact that this decision was to ensure that Telecom Namibia is not negatively affected as a provider of leased lines" he said adding that the effective date of the new regulations is subject to an existing sub-regulation and that this is planned for January 1, 2018. "This will provide operators in the market enough time to implement the regulations and apply for new tariffs" he said. The proposed regulations for the Adjudication of Disputes, aim to define the nature and ambit of a dispute that CRAN is required to adjudicate in terms of the Communications Act No. 8 of 2009 and to set out applicable procedures for adjudicating disputes "The regulations make provision for alternative disputes resolution in the form of mediation and to regulate the procedures for such mediation. The regulations will deal with the procedures for the resolution of complaints and requests for adjudication received by CRAN and will apply to complainants, and service providers" concluded Mbandeka.

(July 16, 2017) economist.com.na

Nigerian

Nigeria's government has approved a policy that seeks to speed up broadband rollout and balance the costs incurred by telcos looking to secure right of way for fiber optic cable infrastructure. Following a recent National Economic Council (NEC) meeting, Nigeria's Communication Minister Adebayo Shittu said, "Just like the telecommunication masts which were harmonized after long years of defacing the environment, the government wants to do the same for the laying of fiber optic cables which is becoming a burden on the Nigerian roads." The minister underlined the policy's intention to promote colocation among companies seeking to lay fiber optic cables, and its objective to minimize spaces occupied by these cables.

(July 24, 2017) webcache.googleusercontent.com

The Nigerian Communication Commission (NCC) has revealed that mobile operator Etisalat Nigeria and its creditors have reached a resolution on key issues on its debts and that a transition process was continuing on mutually agreed terms, reports Reuters. Earlier this year Nigeria's fourth largest cellco by subscribers defaulted on a USD1.2 billion loan with a consortium of 13 Nigerian banks. Subsequent discussions between the operator and its lenders did not lead to a resolution on a debt restructuring plan, prompting UAE-based state investment fund Mubadala, which had a 40% stake in Etisalat Nigeria, to pull out of the cellco; Etisalat Group of the UAE is the firm's other major shareholder, with a 45% stake. Reuters cites regulatory sources as saying that Nigeria's central bank and the NCC have intervened to save

the cellco from collapse, adding that the resolution would ensure that Etisalat Nigeria was maintained as a going concern regardless of changes in the company's shareholders. The source said the central bank had provided assurances to lenders but had not invested any funds, adding that Etisalat Group has indicated it may pull out of Nigeria following the debt crisis, but has not made a decision on the use of its brand in the country. (July 5, 2017) reuters.com

The Nigerian Communications Commission (NCC) says it will take the country's broadband internet campaign to the rest of the world. The NCC Director of Public Affairs, Mr. Tony Ojobo said in a statement that the commission would participate in the 2017 International Telecommunications Union (ITU) Telecom World conference and exhibition. Ojobo said that the participation of Nigeria would focus on deepening the growing broadband segment of the market in the country. He said that Nigeria had a very robust telecommunications sector with active connected subscribers in the region of 150 million and about 110 percent teledensity. According to him, NCC believes that more efforts should be deployed to deepen broadband penetration in the country. "By the National Broadband Plan (NBP) 2013-2018, the country is expected to attain 30 percent broadband penetration by 2018, which currently stands at 21 percent. "Nigeria will host an investment forum at ITU Telecom World 2017 and Broadband Nigeria will be the focus of discussions," he said. The director said that the event would hold in Busan, South Korea, from September 25 to September 28. He said that the high-level delegation to the event would be led by the Minister of Communications, Mr. Adebayo Shittu. Ojobo added that the Executive Vice Chairman of NCC, Prof. Umar Danbatta, industry stakeholders and operators were expected to be on the delegation. He said that the ITU Telecom World 2017 was a global platform for major industries, Small and Medium Enterprises (SMEs), countries and organizations. "Countries and industry players are to network and share ideas about new developments and technologies that will lead to better-connected societies. "It is an event for International visibility of innovative Information and Communication Technology (ICT), products/services and solutions from around the World. "In general terms, it involves high-level debates on the core issues affecting ICT industry, sharing knowledge and working for sustainable development," he said.
(July 4, 2017) pmnewsnigeria.com

Poland

Three firms have expressed an interest in acquiring 450MHz spectrum, which is being offered for sale by the Polish government. The frequencies were returned by Orange Polska earlier this year after it opted not to pay the renewal fee of PLN115.5 million (USD28 million). A report from Telko.in says that Orange, T-Mobile and P4/Play are all lined up as potential bidders, having responded to a government consultation on the award process which was opened in April. The license on offer includes 4.5MHz of paired spectrum between 452.5125MHz-457.0125MHz and 462.5125MHz-467.0125MHz. The Office of Electronic Communications (UKE) says the frequencies can be used to provide additional capacity for 4G LTE networks, though there is also scope for the spectrum to be put to use in the Internet of Things (IoT) sector. UKE has set a reserve price of PLN56.35 million for the spectrum. (July 11, 2017) telegeography.com

Romania

Telecoms regulator the National Authority for Management and Regulation in Communications (ANCOM) has confirmed that it is extending a public consultation related to the possible award of 5G-suitable frequencies. Announcing the extension, the watchdog noted that the ongoing consultation seeks to determine the 'need and opportunity to organize a competitive procedure with a view to awarding the spectrum use rights in the new frequency bands harmonized on a European level for broadband mobile communications systems'. Specifically, it is examining the plans for multiple bands, including: 694MHz-790MHz, 791MHz-796MHz/ 832MHz-837MHz, 1452MHz-1492MHz, 2530MHz-2570MHz/ 2650MHz-2690MHz, 3410MHz-3420MHz/ 3510MHz-3520MHz and 3450MHz-3465 MHz/ 3550MHz-3565MHz. ANCOM says it is looking to gauge how interested market players are in acquiring new rights of use to the bands in question, while also examining the possible timeframe for any spectrum sale. In addition, it says it is looking to clarify a series of technical and economic aspects regarding access to the frequencies, as well as 'some elements that could influence results, such as the selection procedure design, the frequency bands auctioned together, the optimum spectrum amounts available to be acquired by one operator and certain obligations included in licenses'. As per the revised timeframe for the consultation, submissions are now being accepted until August 11, 2017.
(July 26, 2017) telegeography.com

Russia

The Ministry of Communications (MinSvyaz) and the State Commission for Radio Frequencies (SCRF) have finalized a decision to allow 4G LTE network services (and other future mobile platform evolutions) in additional bands currently utilized for 3G W-CDMA (UMTS) services, by granting these blocks technology-neutral status – augmenting a list of other lower and higher-band frequencies already available for LTE/tech-neutral services. The latest tech-neutral bands are: 1920MHz-1980MHz/2110MHz-2170 Hz (paired FDD) and 2010MHz-2025 Hz (unpaired). (July 11, 2017) telegeography.com

Rwanda

The largest mobile operator by subscribers, MTN, has agreed to pay a RWF7.03 billion (USD8.22 million) fine which has been imposed by the Rwanda Utilities Regulatory Agency (RURA). The watchdog imposed the penalty in May after ruling that the cellco was in contravention of its licensee for hosting its IT services outside of the country, in an MTN Group IT hub in Uganda. (July 10, 2017) telegeography.com

South Africa

The Independent Communications Authority of South Africa (ICASA) is in consultation with the National Consumer Commission and the Competition Commission amongst other stakeholders to find ways in which mobile data can be made more affordable in South Africa. In his inclusive growth action plan presentation on Thursday, Finance Minister Malusi Gigaba highlighted that as part of his telecommunications mandate, his office will direct the Competition Commission to investigate the high cost of mobile Internet data in the country. According to Paseka Maleka, Icasa spokesperson, the organization gave its stakeholders 45 days to make submissions on a questionnaire in respect to an inquiry on the high prices of data. This week, South Africa's communications regulator, ICASA, finally started its engine for reducing the absurdly high cost of data. It will accept ... "The reduction in the cost of data will be dependent on the outcome of the market review process, which is the next phase of the priority markets study. ICASA has legislative powers to impose appropriate remedies (which may include price regulation) through regulations on operators found to have significant market power in the relevant market where competition is found to be ineffective. "The purpose of the study is to identify relevant wholesale and retail markets (which may include broadband markets) in the electronic communications sector that ICASA will priorities for future market review in terms of section 67(4) of the Electronic Communications Act," said Maleka. Last year Telecommunications Minister Siyabonga Cwele asked ICASA to commence an inquiry and to prescribe regulations to ensure effective competition in broadband markets. This year he requested Economic Development Minister Ebrahim Patel to ask the Competition Commission to also look into high data costs with a view to identifying measures to reduce these costs. Both regulators are expected to work together in their complementary investigations. "Government believes that lowering the costs of data will stimulate economic growth by enabling entrepreneurs to tap into the internet to innovate, source cheaper inputs and sell their products to a wider market. All this can help entrepreneurs to be more profitable and hopefully create jobs," said Siya Qoza, spokesperson for the Telecommunications Minister. In its 2002-2013 information and technology study StatsSA found that the wealthiest households and those living in formal dwellings and in metropolitan areas were much more likely to access the internet at home than their poorer peers in informal or traditional dwellings and rural areas. "Although mobile technology offers improved parity, internet access was, however, still skewed by geographical location (lower in rural areas) and socio-economic status (positively associated with household income and living standard)," said the report. In September 2016 radio personality Thabo "TboTouch" Molefe was invited to address the parliamentary portfolio committee on telecommunications and postal services on his social media campaign against high data costs. Then in June 2017, Twitter was set alight when the controversial poet Ntsiki Mazwai asked social media users to not buy data or log in on the platforms in protest against data charges. (July 17, 2017) timeslive.co.za

Spain

The Ministry of Energy, Tourism and Digital Agenda (Ministerio de Energia, Turismo y Agenda Digital, MINETAD) has launched a public consultation regarding the future introduction of 5G technology. The issues on which input is required relate to: the status of 5G technology; potential 5G services and applications; network deployment; radio spectrum; 5G prototypes; and 5G research and development (R&D). MINETAD estimates that the economic impact of the introduction of 5G in Spain by 2025 will be EUR14.6 billion (USD16.6 billion). Submissions are welcome until July 31. (July 7, 2017) telegeography.com

Taiwan

National Communications Commission (NCC) has said it will begin accepting bids from July 19 to September 1 for the release of 2100MHz and 1800MHz frequency band units for 4G operations. A total of bandwidth of 30MHz in the 1800MHz frequency band will be released in three units, each 10 MHz and starting with a bidding price of NT$2.2 billion (US$72.03 million). The 2100MHz frequency band will be divided into 12 units, each unit also 10MHz and a minimum bid price of NT$1.9 billion, NCC said. NCC will announce qualified bidders on October 18, allowing them to participate in the first round of bidding in the latter half of the month.
(July 6, 2017) digitimes.com

Ukraine

Telecoms regulator, the National Commission for State Regulation of Communications & Informatization (NCCIR), has sent its draft prices for 1800MHz 4G LTE-suitable spectrum licenses for government approval, ahead of an auction expected later this year. The draft sets the floor bidding cost at UAH265 million (USD10.2 million) per 10MHz in the band in all Ukrainian regions. The 1800MHz spectrum tender will follow Ukraine's planned 2600MHz 4G license auction (incorporating frequencies returned to the regulator by MMDS Ukraine). Existing GSM-1800 frequency allocations will be returned for conversion/ redistribution, with 2 75MHz in the 1800MHz band up for grabs – although a large portion (2×60MHz) will be guaranteed to the three main cellcos to provide continuity of service, and the remaining 2×15MHz placed in a competitive auction. Kyivstar – which holds the bulk of the existing GSM-1800 range – is likely to claim its right of first refusal on 2×25MHz, whilst Vodafone Ukraine (MTS Ukraine) could purchase a reserved 2×20MHz block and Lifecell 2×15MHz. (July 13, 2017) telegeography.com

United Kingdom

Britain's Competition Appeal Tribunal (CAT) has ruled on a case lodged by fixed line incumbent BT, which challenged determinations made by local telecom regulator OFCOM in its 'Business Connectivity Market Review – Review of competition in the provision of leased lines'. In publishing its findings on the matter, CAT said it had unanimously found that Ofcom 'erred' in both its conclusion that defining a single product market for contemporary interface symmetric broadband origination (CISBO) services of all bandwidths was appropriate, as well as its definition of the 'Rest of the UK' as a single geographic market. Further, the competition body argued that Ofcom had also been wrong in its determination of the boundary between the competitive core segments and the terminating segments of BT's network. As a result, CAT said it was quashing Ofcom's decisions in respect of all three aforementioned matters. However, with the Tribunal noting that it was 'not in a position to substitute its own findings in relation to any of the above matters', it confirmed they would be remitted to the telecoms watchdog for reconsideration. In response to the ruling, the Financial Times cites Ofcom as saying it was 'disappointed', though it is understood the regulator will wait until September 2017 – when the detailed findings are expected to be released by CAT – to decide how to proceed.
(July 27, 2017) telegeography.com

OFCOM has set the rules for the first auction of 5G spectrum, planned for later this year. It will offer 40 MHz in the 2.3 GHz band, available for immediate use, and 150 GHz in the 3.4 GHz band, expected to be used for 5G services in future. The bidders will be subject to limits in how much spectrum they can buy, in an attempt to limit the dominance of BT/EE and Vodafone. As proposed in the consultation last November, each operator will face a cap of 255 MHz on the amount of 'immediately useable' spectrum that it can hold. In addition, a cap of 340 MHz will apply on the total amount of spectrum a single operator can hold. This cap amounts to 37 percent of all the mobile spectrum expected to be useable in 2020, which includes not only the spectrum available in this auction but also the 700MHz band. The caps mean BT/EE will not be able to bid for spectrum in the 2.3GHz band and can only acquire a maximum 85 MHz of new spectrum in the 3.4GHz band. The overall cap also means that Vodafone could gain a maximum 160 MHz of spectrum across both the 2.3GHz and 3.4GHz bands. In addition to the 700 MHz band, which still requires vacating by TV services, Ofcom has put off licensing the 3.6-3.8 GHz band. The latter frequencies are also expected to be used for 5G, but Ofcom said it has "less confidence" that these will be available soon nationwide. Furthermore, 3 UK has recently acquired more spectrum in the 3.4 and 3.6-3.8 GHz bands, reducing its gap in spectrum holdings with the other operators. 3 UK responded with a statement calling Ofcom's proposal "a kick in the teeth for all consumers and in particular for the near-200,000 people who signed up to the 'Make the Air Fair' campaign". The campaign was run by the operator late last year to rally public support for its call of a 30 percent cap on each operator's spectrum holdings. The company said Ofcom had shown little interest in tackling the problem of an "imbalanced" mobile market, and the operator would make responding to Ofcom a "matter of urgency". O2 UK, which has even less spectrum than 3, said it was also disappointed with Ofcom's announcement. CEO Mark Evans said the proposed auction terms "fall short of

our expectations but it is important we now press ahead with the auction quickly so that the spectrum can be obtained by operators that will deploy it for the benefit of consumers, businesses and ultimately UK plc". According to Ofcom, the current holdings of "immediately usable" spectrum are divided into 255 MHz for BT/EE, 176 MHz for Vodafone, 90 MHz for 3 UK (plus 40 MHz useable in 2020) and 86 MHz for O2. It expects another 190 MHz in the 3.4 GHz band as well as 80 MHz in the 700 MHz band to be available in 2020. Spectrum caps, as well as rural coverage obligations, are also planned for the 700 MHz band and will depend on the outcome of this year's auction. Ofcom's proposed regulation on the auction rules is open for public comment until August 14. The regulator also set reserve prices for the auction, at GBP 10 million per 10 MHz of the 2.3GHz band and GBP 1 million for a 5 MHz block in the 3.4GHz band. These are unchanged since Ofcom's initial statement in October 2015, giving a total reserve price of GBP 70 million for the 190 MHz of spectrum to be awarded. (July 11, 2017) telecompaper.com

UK-based communications infrastructure company Arqiva has announced the acquisition of an additional 28GHz spectrum license from intelligent managed services provider Luminet. The Region A concession comprises 2×112MHz, and covers Central and Greater London. The company has said this will bolster its existing nationwide spectrum band ownership. No financial details were disclosed. Commenting on the matter, Nicolas Ott, Managing Director of Telecoms and M2M at Arqiva, said: '5G [fixed-wireless access] FWA is an exciting opportunity to deliver true ultrafast broadband above 500Mbps to millions of households … In purchasing this additional license we are able to further our ambitions in this area, standing ourselves in good stead to deliver a compelling 5G FWA wholesale service to UK mobile and fixed operators across the country, and with even more capacity in Greater London.' In February 2017 Arqiva revealed it would partner with Samsung to test 5G FWA technology in central London. The trials, which are being conducted this summer, are not expected to pre-empt a move into the consumer sector, however, with Arqiva CEO Simon Beresford-Wylie noting at the time that mobile phone companies would be participating in the trials with Samsung, and confirming: 'We are not competing for their customers.' (July 5, 2017) telegeography.com

The U.K. government formally launched a £400 million fund to stimulate spending on full fiber networks. Called the Digital Infrastructure Investment Fund (DIIF) it was announced in November 2016 as part of Chancellor of the Exchequer Philip Hammond's Autumn Statement, and aims to unlock more than £1 billion of investment. Full fiber was arguably the biggest discussion point at Total Telecom's Connected Britain event in London in June. The general sentiment at the show was that copper extension technologies like G.Fast, as well as wireless, have a role to play to deliver a good enough broadband experience for now, but that the long-term goal should be fiber-to-the-premises, and full fiber backhaul for 5G, when it eventually arrives. "As technologies change and people's habits move with them, it is crucial we play our part to ensure Britain stays at the front of the pack," said Andrew Jones, Exchequer Secretary to the Treasury, in a statement. "Full fiber will provide use with the better broadband we need to ensure we can work flexibly and productively, without connections failing," he said. The fund will be managed and invested on a commercial basis by private sector partners, igniting interest from private finance to invest in the sector, resulting in more alternative providers entering and expanding in the market, the government said. Two infrastructure investment firms, Amber Fund Management and M&G Investments – part of Prudential – have been appointed to manage the DIIF. (July 3, 2017) totaltele.com

United States

Thirty state attorneys general July 5 said they support a Federal Communications Commission plan to let phone companies block robocalls that falsely appear to come from another number. Making caller IDs display a number that isn't the one from which a phone call actually originated violates the Truth in Caller ID Act of 2009. But the practice, known as caller ID spoofing, has become common among scammers and others making fraudulent robocalls. The FCC voted 3-0 in March to advance a proposal that would crack down on spoofed robocalls by letting phone companies such as AT&T Inc. and Verizon Communications Inc. block calls that falsely appear to come from a phone number that only accepts incoming calls, or from an unassigned phone number. State attorneys general, including Xavier Becerra (D) of California, Pam Bondi (R) of Florida, Eric Schneiderman (D) of New York, and Ken Paxton (R) of Texas said in the FCC filing that they support the agency's plan. In letting phone companies block calls that appear to come from a number whose owner has requested it be blocked for outgoing calls, there is "little risk" to legitimate callers being blocked, the attorneys general wrote. "As such, allowing providers to block these calls would stymie scammers without burdening businesses," they said, calling the proposal "a step in a positive direction for the FCC and for consumers, as they will reduce the ability of scammers to spoof real and fake numbers, and increase the ability of law enforcement to track down scammers." FCC Chairman Ajit Pai has said robocalls are the top source of consumer complaints to the agency. In their filing, the attorneys general said they've driven a large volume complaints at the state level as well. In connection with its proposal, the FCC

is also gathering input on whether it should authorize providers to use a technical solution that could reliably identify spoofed robocalls and preemptively block them. The state attorneys general didn't comment on that question. (July 6, 2017) bna.com

The FCC has adopted the order clarifying that the rules on phone privacy are back in effect and dismissing as moot challenges to the telecom broadband privacy rules Congress nullified through a Congressional Review Act resolution. The vote was unanimous but with Commissioner Mignon Clyburn dissenting in part and with a lot to say about what she viewed as the remaining lack of clarity about broadband privacy protections. The FCC went straight to an order rather than putting the item out for notice and comment, explaining that "because we are simply recognizing the effect of the resolution of disapproval, we find that notice and public procedure are unnecessary to reflect this action in the Code of Federal Regulations." "Today, the Commission releases a ministerial Order to implement the Congressional resolution disapproving the Commission's 2016 Privacy Order, which had amended the Commission's rules implementing Section 222 of the Communications Act," said FCC Chairman Ajit Pai. "Because Congress has invalidated the 2016 Privacy Order, we simply make clear that the privacy rules that were in effect prior to 2016 are once again effective." The Chairman said that while his plan was to have the Wireline Competition Bureau handle what he called a "ministerial act," Clyburn requested it be handled at the commission level with a vote. Pai said he was "perplexed" by her decision to dissent in part, since he says she made no changes to the item. "When a Commissioner does not share her concerns about an item until after she casts her vote, it makes it difficult to work together to find common ground," he said. She called it "facile and bull-headed" not to seek comment on how the proceeding was affected by the CRA nullification, the first time it had ever been used on FCC rules. "Second, and more importantly, this Order shows that the majority is committed to reversing Title II for broadband and that they are willing to leave broadband consumers without privacy protections while this work is ongoing," she said. "Even if we did not adopt rules, we could adopt enforcement guidance or a policy statement using the voluntary code of conduct on which broadband providers seeking reconsideration were willing to agree. But no, the Commission is not even doing that. We now simply have the bare text of section 222 for broadband, and decade-old rules for legacy voice," she added. Pai has proposed reclassifying ISPs as information service providers, rather than telecoms, after which the Federal Trade Commission would reclaim its authority over broadband privacy, which it lost when ISPs were classified as common carriers in the 2015 Order. The FTC is prevented from enforcing regulations on common carriers. In the meantime, it is not clear what the state of broadband privacy oversight is, though ISPs have pledged to protect sensitive customer information because it is in their interest to do so, though what should be defined as that sensitive personal information for purposes of collecting and sharing is one of the issues that divides the edge providers and some net privacy activist groups from ISPs. The phone privacy rules the FCC is clarifying do refer to telecommunication service, under which ISPs are still classified under Title II. But the language is pretty phone-specific.

(June 30, 2017) broadcastingcable.com

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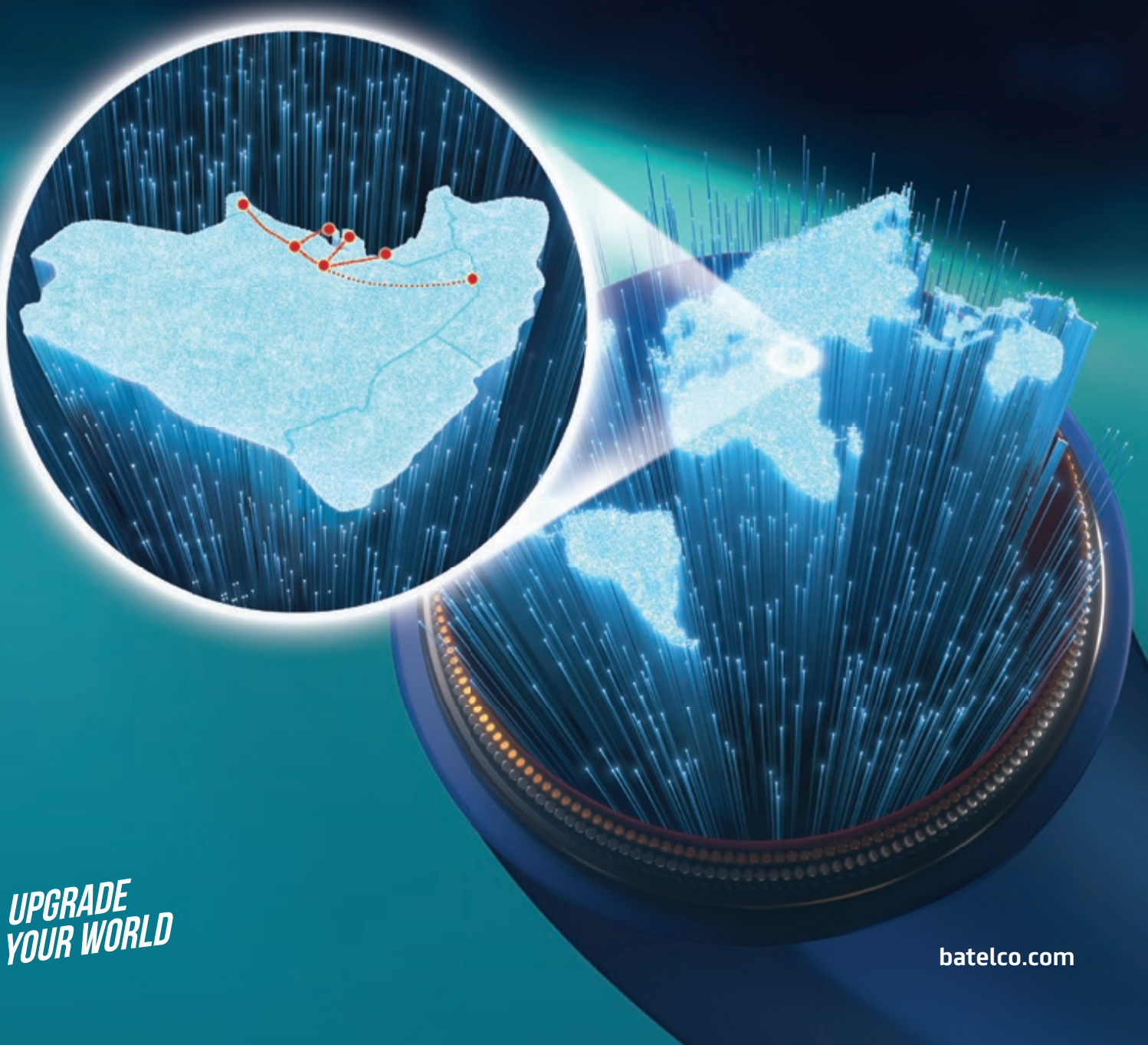

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