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SAMENA TRENDS

EXCLUSIVELY FOR SAMENA TELECOMMUNICATIONS COUNCIL'S MEMBERS

BUILDING DIGITAL ECONOMIES

A SAMENA Telecommunications Council Newsletter



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Group CEO
STC

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EXCLUSIVE INTERVIEW

Dr. Khaled H. Biyari
Group CEO
STC

Raising demand for mobile content and cloud services and the way forward for the telecom industry stakeholders



Two of the most important new business service areas that telecommunications operators need to accelerate their implementation efforts on, include cloud services and mobile content delivery. There is much recognizable revenue and partnership potential that lies in these two areas, and there should be no more delays to promoting core capability and network capacity in providing these services among businesses and end customers.

The "Smart City" concept, which is under much discussion in many markets while being under implementation in some, is partly founded on the need for building up information technology infrastructure whereby targeted solutions and useful information, relevant to the needs and daily lives of citizens, are delivered in the most robust and seamless ways possible.

Moreover, recognizing that ICTs and intelligent digital applications are gradually becoming integral to the development, growth, and sustainability of industries and economic sectors, the role of small and medium-sized enterprises has become ever more visible. The same also applies to state-owned enterprises and government bodies that have defined, or are in the process of defining, clear digital development strategies and thus are in search of finding new ways to align themselves with global technology deployment and digital accessibility norms.

In being able to fulfill digital needs of all of the aforementioned enterprises, cloud-based services need to be adopted. Allowing businesses and end customers to conduct e-commerce and other businesses activities over private networks, cloud-based services can effectively meet on-demand needs for software, systems, peripheral resources, hosting, and data storage, thus shifting the focus from developing infrastructure and support services to conducting real business.

Telecom operators are in an ideal position to drive cloud-based service adoption.

Both cloud security and cloud-based security services for protecting business assets have undergone evolution. This has greatly reduced security concerns that once impeded adoption of cloud services.

Moving forward, it is highly probable that content delivery, in its own right, will also impact adoption of cloud services.

The increase in mobile devices clearly means more need for mobile content and equally more need for making Web and multimedia content more accessible on mobile devices. Alongside cloud services, here too telecom operators need to take a lead in being able to deliver targeted content, for example, by analyzing users' "big data". Such a leadership role is even more warranted after recognizing that operators have already invested and are continuing to invest in mobile content delivery network (CDN) technologies, thus further optimizing performance of end-user mobile devices. These efforts to help improve quality of customer experience, deliver HD video content, deliver encrypted content, and ensure better delivery of latency-sensitive content for mobile consumption, need to translate into sizeable investment returns. This makes marketability and visibility of operators' services to target customers ever more essential.

Fortunately, within the SAMENA Council's community of software and technology providers and telecom operators, the need to emphasize upon both mobile content and cloud-based services, making such services more visible to regional target customers, ranks among key business priorities.

Yours truly,



Bocar A. BA
Chief Executive Officer
SAMENA Telecommunications Council



Dr. Khaled H. Biyari
Group CEO
STC



Dr. Biyari was appointed as Group CEO of STC in April 2015. Before his appointment as CEO, he served as the Senior Vice President for Technology and Operations at STC. He is also the Chairman of STC Advanced Solutions, Vice Chairman of STC VIVA Kuwait, Vice Chairman of OTL, and a Board member of both Turk Telecom and Avea. Prior to joining STC, he served as the Senior Vice President and General Manager at Advanced Electronics Company (AEC). From 1990 until 1995, Dr. Biyari was a Professor of Communication Systems at the Electrical Engineering Department at King Fahad University of Petroleum & Minerals (KFUPM).

Professionally, Dr. Biyari is an active member of a number of professional organizations and has lectured and published papers on Communication and Information systems. He has also lectured on numerous occasions on Technology Management, Innovation, as well as ICT industry-related issues. He was twice-elected Chairman of the IEEE Saudi Section.

Dr. Biyari also served as a member of the Committee responsible for developing the Long Term National Plan for Electronics Industry in the Kingdom. He was also a member of KFUPM Executive Committee responsible for KFUPM's long-term strategic plan. In 2009, he was elected by the Council of Ministers to the BoD of the Electricity and Cogeneration Regulatory Authority (ECRA) in Saudi Arabia. Dr. Biyari obtained his Ph.D. in Electrical Engineering from the University of Southern California, Los Angeles, USA in 1990 and his B.S. and M.S. in Electrical Engineering from KFUPM in 1983 and 1985, respectively.

Q. How do you view the current state of the digital ecosystem and how is STC redefining its roles and business objectives in it?

A. The digital ecosystem is evolving quickly as more and more applications, content and services are delivered through it. This is driving incredible demand for our connectivity services. For example,

industry, one with some challenges but also tremendous opportunities.

2. What steps is STC now taking to decisively raise demand for cloud services, and has security aspects of the cloud been the biggest reason for its slow adoption thus far?

Actually, the demand we see in the cloud is higher than anticipated by the most optimistic study we have. So, we don't see a demand issue to start with although we did not launch our big cloud campaign yet. The

Q. What direct role must an operator voluntarily exercise to raise demand for cloud service adoption, and which market segments are and will remain the easiest adopters to target?

A. It is all about awareness. But as mentioned earlier we see more customers demanding cloud services with good level of education



over the last 12 months the data traffic over our mobile network has grown by over 250%. At the same time STC's range of services has expanded rapidly, particularly in the area of cloud and managed services. We see our range of service offerings continuing to increase as we build our position in the ecosystem as a leader in ICT, not just connectivity. It is an extremely exciting time for our

reason is probably the fact that we are seeing a major transformation in the market from capital investments into operational expenses where the cloud is a major enabler in this business transformation. From security perspective, we are using very strict security measures and standards and our customers trust STC brand when it relates to security, availability and scalability.

and about its potential and benefits. However, we will continue investing awareness programs such as participating in ICT events. From STC perspective, cloud services target all Enterprise sectors from small to large organizations but mid-size companies are the early adapters.

Q. Does STC see a direct link between the ability to offer mobile content and the ability to devise intelligent mobile advertising strategy?

A. Absolutely, there is a strong connection between offering content and offering intelligent advertising placement services, as this is how significant value can be added to our advertising clients and therefore to our content business. Also, whilst this is true for fixed services, it is particularly relevant for mobile delivered content given the greater personalization potential and the rapidly expanding geospatial capabilities now being utilized for many different types of offer targeting. We see this area as becoming increasingly valuable and mobile advertising revenue rising proportionately.

Q. Do you also view mobile advertisement and mobile content among the few options that operators have for securing their future revenues?

A. We see mobile advertising as an important platform service (PaaS), however we see it is just one of the opportunities in the PaaS market. We have already spoken about our range of cloud services and security is seen as an increasingly important PaaS service in the future as well. There are also a number of software application services (SaaS) that STC is looking to offer directly and with partners. Also, this is a very active area for M&A in many regions as operators seek to expand their SaaS offerings to business customers in particular. Finally, we also see increasing revenues from various infrastructure services (IaaS) that STC is offering. As we expand into compute and storage services we see a very strong connection with our connectivity services that are increasingly required to ensure a high quality of service is delivered to our cloud service customers.

Q. What direct role must an operator voluntarily exercise to raise demand for cloud service adoption, and which market segments are and will remain the easiest adopters to target?

A. As mentioned earlier, we see more customers demanding cloud services with good level of awareness about its potential and benefits. However, we will continue investing awareness programs such as participating in ICT events. From STC perspective, cloud services target all Enterprise sectors from small to large organizations but mid-size companies are the early adapters.

Q. What significant investments has STC made for tapping mobile content and cloud service opportunities in the market?

For cloud, STC has made significant investments in three areas: First: Building huge data centers across the country that can host STC Cloud services. Second: establishing a big internal team of specialized experts with high calipers to design build and operate cloud services. Third: creating a unique business model that will forge a whole new ecosystem around STC Cloud Services across STC Group.

Q. How do you perceive the notion of demand for cloud services and mobile content in the age of ultra-fast and ultra-responsive 5G broadband? What aspects of the service delivery then will be different from how it is today?

A. At the moment it is more difficult to guarantee a very high quality of service for applications and content delivered over the mobile network, compared to when a fixed network connection is used. As a result some real time applications

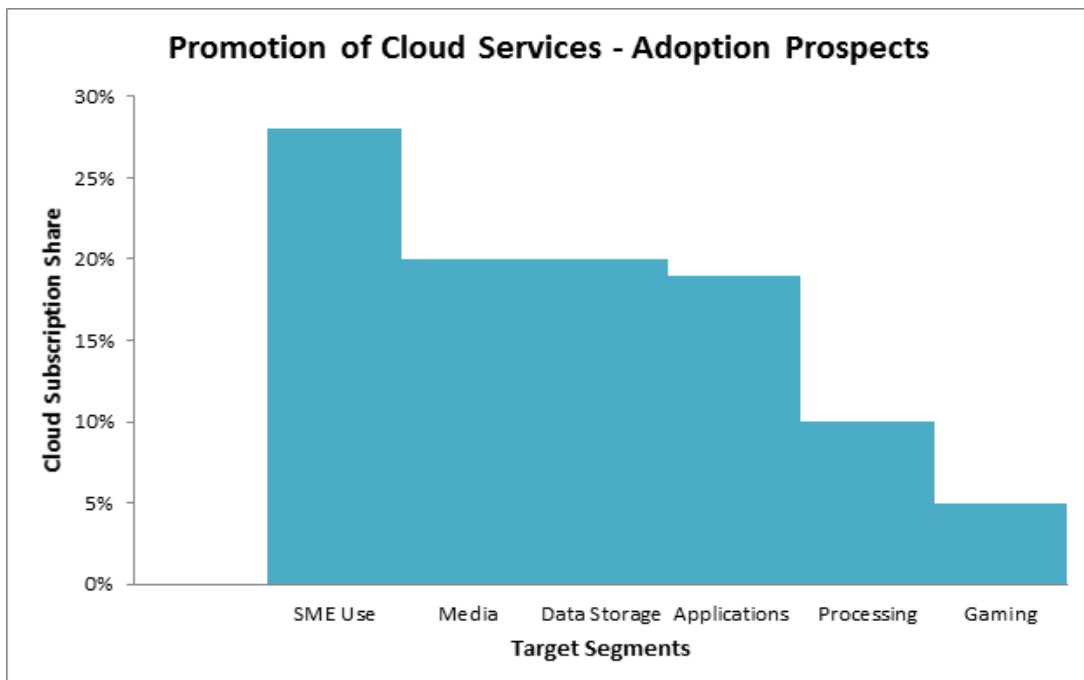
and content, particularly those with a high degree of video, can suffer user experience issues at peak times. Latency and high bandwidth requirements are two of the issues that 5G seeks to address, so quality of service should improve as 5G compatible devices and network are rolled out.

Q. What is STC's vision of 4.5G technology, presently, and do you also feel that 5G would begin to noticeably impact an average end-user's mobile experience no earlier than a decade from now?

A. Technology such as 4.5G offers the opportunity to offer more bandwidth and therefore a better experience for mobile customers, especially those who like watching video on their tablets. 5G technologies also proposes to address the specific issue of latency, an important issue for response time critical applications such as connected cars and other future Internet of Things (IoT) applications. STC, through its network technology teams and STC solutions engineering teams, are actively working with our partners to ensure availability of such advance serveries to our customers.

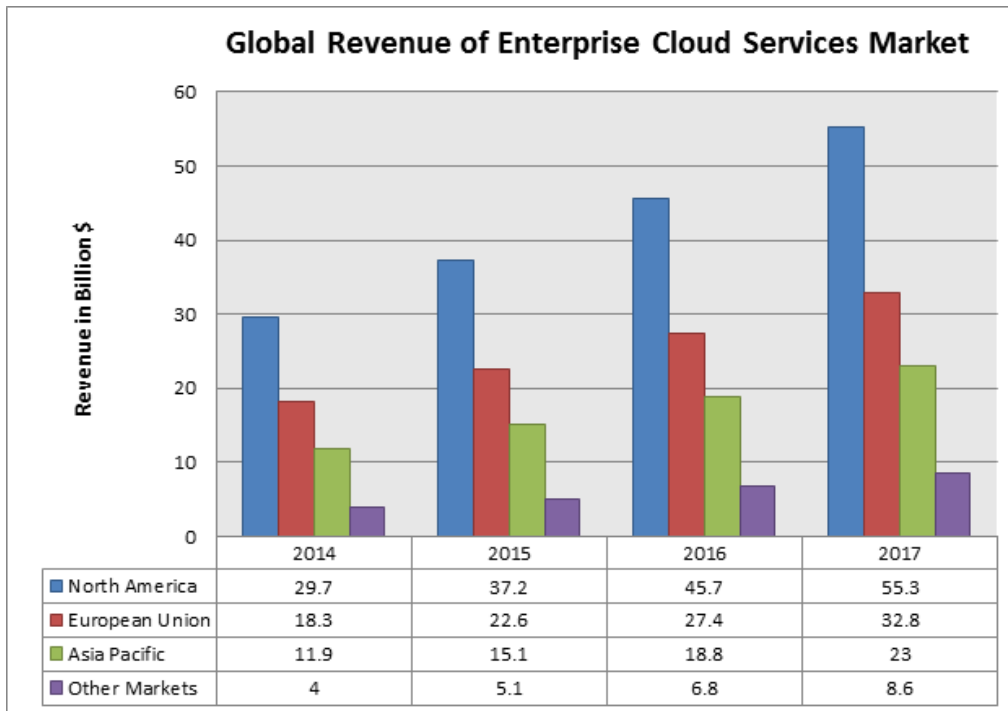


④ CLOUD SERVICES MARKET AND CONTENT DELIVERY TRENDS

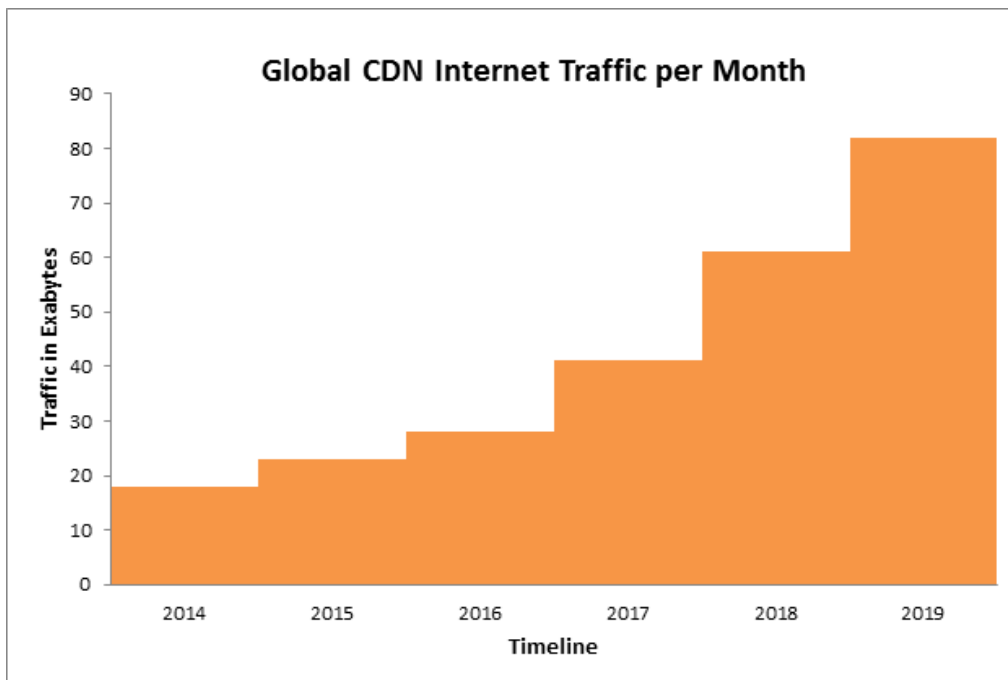


Source: Data approximated based on analysis by Statista, which analyzed Telecom industry experts' views on how cloud-based services can be best promoted.

Research Note: While slight shifts in target segments shown above may be possible in the case of SAMENA region, a general understanding that SMEs are among the strongest prospective users of cloud-based services, remains. This is followed by media/content and data storage segments.



Data Source: Based on data collected by Statista for the years 2014 through to 2018.



Source: Based on Cisco’s analysis (Note: 1 Exabyte = 1018 bytes)

Research Note: Content delivery networks (CDNs) will carry nearly two-thirds of Internet traffic by 2019. CDNs provide telecom operators the ability to develop and sell new digital services in their diversification efforts. Generally speaking, the market for CDN services, especially driven by video content, has been expanding steadily at an almost exponential rate. Moreover, Informa Telecom & Media believes that, by 2017, video-based CDN market revenues will exceed US\$4 billion.



MEMBERS NEWS

MEMBERS UPDATES

Orange Business Services to deploy converged communications for Amcor

Orange Business Services has been selected to deploy a converged communications system for Switzerland-based packaging company Amcor. The six-year, "multi-million euro" contract sees Orange's enterprise unit supply a range of mobile and fixed-line solutions to Amcor as attempts to streamline communications across the 43 countries in which it operates. Services supplied by OBS include Telecom Expense Management, Mobile Device Management, mobile connectivity, Business Together as a Service (B2GaaS) and Business Talk SIP Trunking. The operator said the services will allow Amcor to make intra-company calls at no extra cost and streamline voice services in 19 countries using Orange's SIP trunking. Meanwhile, centralized mobile device management will enable Amcor to securely provision new applications to employees while managing costs using OBS's Telecom Expense Management. Joel Ranchin, VP Corporate IT & Global Business Services at Amcor, said: "We know Orange Business Services is a reliable partner with a proven delivery track record. In addition to having an

unmatched global presence in both mobile and fixed connectivity, Orange tells a real end-to-end story around IT and digital transformation. "Amcor continually reviews its IT solutions to ensure we are keeping up with the latest solutions." In an interview with European Communication last week, Thierry Bonhomme, Chief Executive of Orange Business Services, said business from voice, fixed and mobile activities were delivering results that were "better than expected." Anne-Sophie Lotgering, SVP Europe, Russia and CIS at Orange Business Services, added: "Our objective is to be the trusted partner in our customers' digital transformation. This fixed-mobile convergence contract will help Amcor improve collaboration throughout the organization and gain better control over all communications."

DE-CIX New York achieves milestone of 100 customer networks

DE-CIX has announced the 100th customer network on its New York Internet exchange. Launched in May 2014, DE-CIX New York is DE-CIX's first Internet exchange in North America and the city's fastest-growing exchange. Achieving the 100th customer milestone this month

keeps DE-CIX New York growing faster than its initial growth projections. "We are thrilled that the concept of DE-CIX New York has been so well-received by the marketplace," states Harald A. Summa, DE-CIX CEO. "In less than 18 months, our team has grown this new exchange from zero to an ever-increasing ecosystem of some of the world's most important networks. It's a rich and thriving environment that will continue to serve the Internet community with truly neutral peering and interconnection services of the highest quality." DE-CIX New York was created to deliver a distributed carrier and data center-neutral Internet exchange to the New York metropolitan area. In an effort to offer customers more reliable and flexible service options, from the beginning, DE-CIX New York offered more than 100 access points to its exchange from the most relevant data centers around the region. "In a relatively short amount of time, we have successfully created a strong 'center of gravity' in the region for networks, and we intend to continue to grow DE-CIX New York with the same focus and energy into the future," continues Summa. "We thank our customers and partners for trusting us with their mission-critical data and look forward to serving them well into the future." In the past several years, DE-CIX has expanded rapidly into new markets around the globe, delivering service in markets with the need for neutral and open peering and interconnection. This strategy was affirmed earlier this month, when DE-CIX received the award for "Best Internet Exchange" by Capacity magazine, a publication dedicated to the wholesale telecommunications industry.

Etisalat and Visa showcase the future of "Connected Commerce"

Etisalat and Visa have launched a joint showcase to mark the first annual UAE Innovation Week as part of the UAE's National Innovation Strategy, launched by His Highness Sheikh Mohammad Bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai. Running till 28 November 2015 at the Etisalat Experience Center in Dubai Mall, the showcase includes live demonstrations of the Connected Car, which enables seamless digital payment experience in consumer vehicles. The revolutionary prototype shows how a consumer can pre-order or pay for everything from fuel to food by utilizing several integrated elements in-car including Visa Checkout, Etisalat's Mobile Cashier, Bluetooth Low Energy (BLE), and Beacon technology to alert the merchant that the customer has arrived and ready to pick up their order. Nathan Cushnie, Visa's Head of Emerging Products and Innovation for MENA, said: "Visa and Etisalat are pleased to give residents in the UAE a chance to experience the future of connected commerce, which aligns with the vision and goals set forward by the nation's leadership through the National Innovation Strategy and UAE Innovation Week. The UAE is making huge strides in developing the infrastructure for digital payments, adding to the possibility of realizing innovations such as the Connected Car in the near future. At Visa, innovation and technology are at the core of what we offer, and we are excited to be a part of the UAE's journey towards becoming one of the most innovative markets in the world." Rashed Al Abbar, Etisalat's Vice President of Consumer Innovations said, "Etisalat connects people from around the world, and we have developed some of the world's most advanced networks by constantly adding value to this infrastructure. Our industry-defining work with Visa in the field of Connected Commerce is tangible evidence of Etisalat's focus on innovation and bringing meaningful, relevant transformational services to our customers." In addition to the Connected Car, a full portfolio of advance Connected Commerce services is showcased in Etisalat's Experience Centers in Dubai Mall and Yas Mall including Virtual

Mall, Mobile2Pump, and advance Mobile Cashier services.

Sudatel Group announces consolidated results for 3Q-2015; net income increases by 15%

Sudatel, a leading telecom group operator in Sudan and West Africa, is announcing its financial results for the third quarter of 2015. The Group has generated a consolidated net income of US\$ 34 million up 15% compared to the same period last year, with earnings per share rising to US\$ 0.024 at an increase of around 7%. Performance during the nine months period ending September 2015 has been consistent with the positive and recovery trend the company has started witnessing since the beginning of the financial year. Gross profit remained flat at US\$115.2M due to increase in savings in operation expenses. Sudatel customer base has also increased by 3.7% reaching roughly 11.3 million subscribers compared to the same period in 2014. Commenting on the results, Chairman of the Board of Directors of Sudatel Group, Dr. Abdelrahman Dirar said: "We are very happy with the results achieved in the third quarter of 2015 proving that we are in fact in heading in the right direction and achieving solid financial gains for our shareholders and investors." Sudatel Group CEO, Tarig Hamza Zainelabdin noted, "Sudatel continues to witness healthy growth across the markets in which it operates and we are confident that we will maintain our steady growth pace over the coming period. The company is constantly working on controlling and minimizing its operational costs in order to maximize on net revenues and profits for the company and its shareholders." Sudatel Group has also recently won the Best African Project award at the Global Carrier Awards, held in Paris earlier this month. The award was in recognition of the pivotal role the company played in advancing infrastructure in a rapidly emerging market. Sudatel participated in this competition for the first time with the project of its Data Center that represents a landmark achievement for an African country and the wider region as a whole.



Turkcell CTO details 4G strategy

Turkcell Chief Technology Officer Ilker Kuruoz has divulged key details relating to the mobile operator's planned 4G launch, which will take place on 1 April 2016. Speaking to Mobile Europe after a capital markets day in London, Mr. Kuruoz claimed that Turkcell will offer a tri-band carrier aggregation (3C) service with speeds of up to 375Mbps from launch, with



a quad-band platform earmarked for launch in 2017. The 3C network will utilize 800MHz, 1800MHz and 2600MHz frequencies, while the executive also noted that around 15% of Turkcell's base transceiver stations have already been connected to its fiber backbone network – a figure which is expected to rise to 38% by 2018. Turkcell secured 4G-suitable frequencies in the government multi-band spectrum auction held on 26 August this year. The cellco paid EUR372.9 million (USD424.0 million) for the 'A3' spectrum package.

The CMO of Sudan operations of Sudatel Group appointed as member of the advisory board of CMO Council

The Chief Marketing Officer of Sudan Operations Hussam Baday has been recently appointed to be a member of the CMO Council Advisory Board in Africa, due to his impressive credentials as per the CMO Council. The advisory CMO Council Board facilitates the sharing of global best marketing practices between business and community cultures and consists of senior marketing executives

across the continent from leading organizations including Google, Microsoft, STC, MTN, Oracle, SAP, Standard Bank, Telkom, Unilever and recently Sudatel. Hussam profile is shared in the CMO council website: www.cmocouncil.org/africa/advisory-board.php. Hussam's selection has its positive impact of enhancing Sudatel brand and positioning it in the global marketplace, and facilitates the East Africa presence across industry decision makers.

TURKSAT becomes member of SAMENA Telecommunications Council

Turksat, Turkey's premier satellite operator, has become the latest satellite operator to enter into SAMENA Council's membership. Turksat ranks among the region's topmost integrated communications and TV service providers, and is the second major communications service provider from Turkey to join SAMENA Council, recently. Turksat manages and operates four satellites (Turksat 2A, Turksat 3A, Turksat 4A and Turksat 4B) and provides all types of satellite communication services through Turksat's own satellites as well as other satellites. With its high-tech infrastructure and experienced staff, Turksat is one of the world's leading operators in the satellite communication business. Through innovative projects set to meet the communication demands of the communities in the Eastern hemisphere, Turksat provides services not only for Turkey, but also for people all over the world. Prof. Dr. Ensar Gül, Turksat's General Manager, stated that "Turksat offers a great deal of flexible solutions by providing its customers with cable and wireless broadcasting, high-speed internet services, and DTH broadcasting services. It is our mission to transform information technology into services which are easily applicable to the everyday lives of people. By becoming a part of SAMENA Council, we affirm our commitment to building necessary communication networks, driving innovation through collaboration and knowledge exchange, and look forward to working with the community of terrestrial operators that are a part of SAMENA Council."

Bocar BA, CEO of SAMENA Council stated that "Turksat's joining SAMENA Council is an indication of desire of a key stakeholder from one of the largest ICT markets in the world to work closely with other regional ICT stakeholders toward building a strong digital future. Satellite operators are integral to global communications and their cooperation and collaboration with landline and cellular operators is necessary for achieving service ubiquity, reliability, and universal communication and broadband access. We very warmly welcome Dr. Ensar and Turksat's team to our community of ICT stakeholders, and are excited by the prospects of working closely with Turksat on stakeholder cooperation initiatives." As a satellite operator member of SAMENA Council, Turksat will be able to leverage the Council's regional and international reach as well as advocacy support programs, which are designed to encourage ICT policy framing and investment in digital infrastructure development, to approach regulatory and industry governance matters from transparent and consensus-driven perspectives, and to enable close communication among all the stakeholders, including terrestrial and satellite operators.

Sudatel signed a contract with the Taxation Chamber for fiber optics connection

In the presence of the minister of Finance & National Economy, Sudatel signed a second contract with Sudan Taxation Chamber to connect 136 sites with fiber optic network, to be followed by another 100 sites. This connection will enable this financial body to utilize the technology in its services and proceed on money collection through electronic tools. Under the economic reforms pursued by the government, the Ministry of Finance and National Economy decided to implement new tools of funds collection via electronic voucher 15. This new method will increase transparency and enhance efficiency in public services delivery. It brings also many benefits to both public and private sector to improve their performance. This agreement is part of many contracts signed by Sudatel Group in the frame of the E. Government implementation project. It is noteworthy that Sudatel is playing

a major role in the preparation of the appropriate infrastructure of this strategic project. Sudatel has already signed a number of agreements with the National Information Centre, which is the main body in charge of the implementation of the E. government. Commenting on that, the CEO of Sudatel Group, Eng. Tarig Hamza Zein Elabdin said: "Sudatel is one of the strong pillars of the national economy and has a major contribution in building the infrastructure of the e-government. We are committed to offer the maximum services we can to reach the ultimate goals of performance and sustainable economic development". Sudatel signed recently a contract in China for the construction of the National Broadband Network, which is crucial project for Sudatel and for the telecom sector in general. This project will improve the telecom sector infrastructure that will lead to the optimization of the services offered by the e-government.

PTCL to provide modern ICT services to FIEDMC

Pakistan Telecommunication Company Limited (PTCL) has signed an agreement with the Faisalabad Industrial Estate Development and Management Company (FIEDMC) for provisioning of state-of-the-art Information Communication Technology (ICT) services. The agreement was signed by Muhammad Nasrullah, CBOO PTCL and Rizwan Ashraf, Director FIEDMC, during a two-day International Seminar on Business Opportunities in Punjab. The seminar was hosted by the Chief Minister of Punjab Mian Muhammad Shehbaz Sharif in Lahore. Walid Irshaid, President and CEO PTCL and Mian Muhammad Idrees, Chairman FIEDMC was also present at the occasion. Muhammad Nasrullah, CBOO PTCL while speaking at the signing ceremony said, "PTCL has successfully pioneered diverse ICT solutions which are enabling business and industry to grow further and empowering our partners and organizations to enjoy quality end-to-end ICT solutions". Equipped with modern GPON technology, latest ICT services provided by the company shall enable FIEDMC to utilize PTCL's high-end solutions, including Triple Play, Smart Link, I-Sentry, Voice Over IP, High Speed Broadband, Primary

Rate ISDN (PRI), Basic Rate Interface (BRI), Cloud Computing, Data Hosting and Data Management services.

Saudi Telecom deploys Affirmed Networks' vEPC solution

Saudi Telecom Company (STC) has deployed Affirmed Networks' virtual Evolved Packet Core (vEPC) solution in its live network to support M2M services across the Kingdom. The solution involves virtual geo-redundancy, and supports the delivery of M2M services in the region. The delivery of M2M connectivity enables STC's customers to gain real-time information on their respective services and will help reduce costs and improve the productivity and safety of their various assets. STC is investing in next generation networking solutions, such as network function virtualization (NFV) aimed at reducing costs and improving the customer experience. Abdullah Al Zmame, STC Network Sector VP said: "We are committed to deploying innovative solutions and services to meet the demands and needs of our valued customers. This new M2M service offering on a virtualized platform, has demonstrated STC's commitment and continued leadership in driving technology trends and innovation."

Etisalat to develop the UAE's Connected Car ecosystem with Nissan

Industry leaders Etisalat and Nissan have teamed up for the region's first connected car deployment, which is the coming together of communications and auto technologies, information systems and safety devices for increased levels of sophistication and automation in vehicles. Through a designed 'Nissan SmartCar' mobile app, headed by the Japanese automaker, and powered by Etisalat's network and M2M Control Center platform, the all-new Nissan Maxima 2016 and the Nissan Patrol MY16 will provide customers with convenience, control and security. It will allow drivers to remotely lock or unlock their vehicles, control cooling and even instantly message the owner if the car is involved in a collision. This global launch of the 'Nissan SmartCar' mobile

application during Dubai International Motor Show 2015 in Dubai has marked the beginning of the connected-car ecosystem in the Middle East. The global connected car market will be worth €39 billion in 2018, according to forecasts from research firm SBD and the GSMA. Over the next few years, there will be an increase in the number of new cars equipped with fitted mobile connectivity designed to meet regulatory and consumer demand for safety and security features, as well as infotainment and navigation services. An agreement signed today between Etisalat and Nissan Middle East will have the giants work closely together to deliver scalable, secure, interoperable and intuitive connected experiences to customers. Under the terms of the deal, Nissan Middle East and Etisalat will jointly pursue opportunities to develop connected car technologies and applications to enhance the connected car ecosystem in the UAE and the region. Nissan's Managing Director for Middle East, Samir Cherfan said, "Our new 'Nissan SmartCar' application, which we are launching in partnership with Etisalat, re-iterates to our tech-savvy customers that Nissan is the true leader of 'Innovation that Excites'. "The 'Nissan SmartCar' application will help our customers stay better connected with their vehicles, offering a variety of control tools that will make driving more convenient and safer. Dubai International Motor Show, as a globally significant motoring exhibition, makes the perfect regional platform for the launch of this app, given its wide appeal to those that wish to be informed about the latest automotive trends and innovations.", Cherfan added. Salvador Anglada, Chief Business Officer at Etisalat, said, "We are extremely excited and proud with the result of our cooperation with Nissan Middle East in developing the region's first connected car which will be available in the All New Nissan Maxima 2016 as well as the Nissan Patrol MY16. Keeping with the evolution of the IoT era, it underpins Etisalat's commitment to support the nation's long-term strategy in promoting digitisation initiatives and developing the connected ecosystem of the UAE, including transportation. Through planned investments in our advanced M2M and IoT platforms, Etisalat is well-positioned to help the transportation industry realise their M2M strategies." The 'Nissan SmartCar'

application will help communities stay connected and offer greater levels of control using its innovative technology. After downloading the application on any Android or IOS smartphone, users will gain remote control of locks, the horn, headlights, the windows and perhaps most importantly in this region, the vehicle's air conditioning – allowing Nissan customers the ability to cool down the car in advance of their drive. Among other features, as the application is compatible with GPS, GLONASS, and GSM M2M Technology, users can easily locate their vehicle with a simple touch of a button – an ideal theft deterrent and security feature. In order for the innovative application to work, Nissan will pre-install a small device within the car, which will be connected via an Etisalat M2M SIM card. Nissan partnership with Etisalat on this strategic project ensures the smart application will run successfully on any smartphone, operating system or service network.

Qualcomm and Huizhou TCL Mobile Communication Sign 3G/4G Patent Agreement

Qualcomm and Huizhou TCL Mobile Communication have entered into a 3G and 4G Chinese patent license agreement. Under the terms of the agreement, Qualcomm has granted Huizhou TCL Mobile Communication a royalty bearing patent license to manufacture and sell 3G WCDMA and CDMA2000, and LTE subscriber units. "Qualcomm is dedicated to helping China's wireless industry continue to flourish, and we are pleased to have concluded this agreement with TCL, which is one of the top manufacturers in the mobile industry," said Eric Reifschneider, senior vice president and general manager of Qualcomm Technology Licensing. The royalties payable by TCL are consistent with the terms of the rectification plan submitted by Qualcomm to China's National Reform and Development Commission. "TCL welcomes the prospects of building an improved working relationship with Qualcomm through this announcement. An amended agreement like this one strengthens the strategic partnership between TCL and Qualcomm in the coming years," said a spokesperson of TCL.

Zain Group and Community Jameel unveil TV commercial to drive aspiring entrepreneurs to enter the MIT Enterprise Forum Arab Startup Competition

Zain Group, a leading mobile telecom innovator across the Middle East and Africa in partnership with Community Jameel International, the Corporate Social Responsibility arm of Abdul Latif Jameel Group, announces the launch of an inspiring television commercial inviting applicants to come forward and register their interest and ideas in taking part in the ninth edition of the MIT Enterprise Forum (MITEF) Arab Startup Competition before the January 4, 2016 deadline. The competition, which is organized by the MITEF for the Pan Arab Region, is based on supporting and boosting innovation worldwide and engaging aspiring entrepreneurs in mentorship and networking. The impactful television commercial, produced in both Arabic and English versions, will be telecast across regional satellite TV channels and will be available across all of Zain Group, Jameel Community and MITEF Pan Arab Region respective online platforms. The video highlights a number of the innovative ideas that have been successful in previous years of the competition, which then went on to be commercialized, aiming to encourage others to take the initiative and set new standards of creativity across all industries. These ideas include the discovery of a solution for fast drying cement in Saudi Arabia; the establishment of an exclusive online Middle East photo library in Jordan; the creation of a cloud system for faster rendering in Bahrain; a device that replicates movement in 3D in Iraq; set up of the first medical directory in Sudan; invention of a device for remote cardiac supervision in Lebanon; the first online educational portal in Kuwait; and the launch of a service for the packaging and sale of pre-ordered food in Morocco. The commercial ends with the words, 'Be the next Arab success story', which is a rallying call for young people around the region to be inspired and come forward with their startup ideas that could change the world. Commenting on the launch of the television commercial, Zain

Group CEO, Scott Gegenheimer said: "Ideas and the ability to turn them into something useful and sustainable has been the success story of modern man. This television commercial highlights some of the actual businesses that have been created out of thoughts from the minds of talented young people, and we hope that it inspires a next wave of young entrepreneurs to heed the call and submit their applications to this year's MIT Enterprise Forum Arab Startup Competition." Commenting on Community Jameel International's support, President Fady Jameel said: "As a founding partner of the MITEF Arab startup competition, we're deeply committed to creating a fair and inclusive environment where all inviting applicants can come forward and register their interest and ideas. We will continue to work closely with our partners to promote and encourage young entrepreneurs." He added: "We're proud to be a company dedicated to volunteering in the community; the goal of our commitment is to reconnect 'opportunity' to pathways that lead to employment." For her part, Hala Fadel, Chair of the board of MITEF Pan Arab said: "We are delighted with the launch of an inspiring television commercial that celebrates the commercialized and successful ideas of previous competition participants, one we hope will inspire many other (aspiring) entrepreneurs to apply to this year's edition. We look forward to helping them establish and grow viable businesses by providing them with cash prizes, top-notch training, mentorship, networking, and media exposure, and to sharing the next wave of success stories with the world." This year's competition includes three different tracks: Ideas, Startups, and Social Entrepreneurship, with total prize money on offer in excess of US\$150,000. Each of the three tracks will award the first three ranked winners with cash prizes in addition to many other benefits including: top tier training, mentorship, coaching, media exposure, and great networking opportunities. The competition's website www.mitarabcompetition.com opened for applications on October 6, 2015 with the deadline for receipt on January 4, 2016. Informative roadshows promoting the competition will be held in Bahrain, Egypt, Iraq, Jordan, Lebanon, Kuwait, Morocco, Palestine, Qatar, Sudan and the UAE, and seventy semi-finalist teams will be

announced on February 1, 2016. The semi-finalists will be invited to attend pre-bootcamp activities scheduled to take place in February and March, 2016 in Egypt, Jordan, Morocco, and the UAE. The competition will culminate in a five-day event in Jeddah, Saudi Arabia from April 11 – 15, 2016, with the announcement of the competition winners scheduled to take place during the final award ceremony on April 14, 2016, with a one-day MIT Technology Review Pan Arab conference being held on April 15, 2016. The 2014/2015 eighth edition of the competition that saw the final ceremony held in Kuwait, received an outstanding 4,275 individual and team applications (representing a record participation of over 12,000 entrepreneurs) from 21 Arab countries.

Yahsat to test inflight connectivity on Etihad's Airbus 320

Yahsat, the UAE-based satellite operator, has announced its plan to test high speed inflight satellite connectivity using an Etihad Airbus 320. The collaboration will allow both UAE companies to work together to trial inflight high-speed satellite connectivity via Ka-band on a test aircraft. Yahsat's Ka-band capacity provides higher speeds and cheaper rates compared to legacy inflight connectivity systems based on Ku-band. As airlines continue to explore ways to enhance the passenger experience, high-speed inflight connectivity is increasingly becoming a critical differentiator. With Ka-band solutions, speeds of up to 50 mbps to the plane are commonplace, allowing passengers to have the necessary bandwidth to stream video and enable applications such as video conferencing. Masood Sharif Mahmood, Yahsat Chief Executive Officer said: "The testing of the new satellite connectivity is a key step for Yahsat, as it signifies the beginning of our journey towards expanding into a growing global market segment (in-flight connectivity). We are delighted to be working with one of the UAE's major success stories, Etihad Airways. It is testament to our strategy to collaborate with leading local industry to deliver innovative, secure, reliable and cost effective satellite communications solutions."

Jeff Wilkinson Etihad Airways' Senior Vice President - Technical said: "With testing and validation of Yahsat's new connectivity system on-board one of our Airbus 320 we offer unparalleled possibilities to capitalize on our relationship with Yahsat. We are excited to welcome Yahsat on board, to test the future of high speed inflight satellite connectivity with them". Yahsat is currently participating at Dubai Airshow until 12th November, 2015.

Sudatel triumphs at the Global Carrier Awards

Sudatel Telecom Group won the Best African Project award at the Global Carrier Awards, held in Paris last week. This was in recognition of the pivotal role it played in advancing infrastructure in a rapidly emerging market. Sudatel participated in this competition for the first time with the project of its Data Center. This facility represents a landmark achievement for an African country and the wider region as a whole. After 5 years of planning and building, Sudatel launched the first purpose-built data center in Sudan in December 2014. The project is the most secure and reliable in North, East and West Africa with a tier IV specification. The project has been shortlisted by the judging panel based on its contributions to small and medium enterprise growth, overseas investment, provision of e-services as well as improved infrastructure and services for universities. More notably, its services are available not only in Sudan but in neighboring countries which are able to access the data center through its fiber network. Commenting on that triumph, Eng. Tarig Hamza Zeinalabdin, CEO of Sudatel said: "it is an honor for our group to receive this important award. This recognition proves that we are able to be recognized internationally and it is an evidence of our success. Certainly, our Data Center is our state-of-the-art structure and we are so proud of that". Over the past 10 years, the Global Carrier Awards have become the biggest and most prestigious awards event in the wholesale telecoms calendar. This year's event was attended by more than 350 attendees. A record number of over 160 entries were submitted for this year's awards. The winners were decided by a panel of over 20 judges, which include leading analysts,

industry experts and Capacity's senior editorial team.

'UAE WiFi by Etisalat': High-speed public WiFi launched nationwide

Etisalat announced today the launch of 'UAE WiFi by Etisalat' – the telco's high-speed public WiFi in the UAE. It lets UAE's residents connect to the Internet using their mobile devices in more than 250 major public locations across the country at topmost speeds and the highest available quality in the UAE. The 'UAE WiFi by Etisalat' initiative aligns with the country's "smart" vision and focuses on delivering WiFi coverage across all UAE regions, including Abu Dhabi, Dubai and Northern Emirates. It fosters digital adoption by providing residents seamless and secured Internet access, using the most advanced technologies. Etisalat's mobile data customers subscribed to 1GB mobile data allowance or higher can now enjoy free access through the public WiFi. Free allowance starts from 5 hours up to 30 hours of high-speed unlimited WiFi Internet, depending on the mobile data package. All UAE residents can also enjoy unlimited data access with Etisalat's attractive WiFi packages, priced at AED25 for two days, and AED100 for ten days. Customers can pay by either using their local credit cards, or by using Wasel recharge card. Validity of the paid packages begins from the first instance of access to the WiFi package. Etisalat's Chief Consumer Officer, Khaled ElKhouly, said, "The UAE is the region's fastest growing hub for business. It is result of the forward thinking on the part of this country's visionary leaders. Keeping with their vision, Etisalat has laid out an excellent telecom infrastructure to enable connectivity for residents and businesses. We are taking it a step further and making free, high-speed and unlimited public WiFi a norm, helping people stay connected more than ever before. "Etisalat services stand for quality, and quality is what we aim to deliver with our uninterrupted, high-speed public WiFi service. No advertisement pop-ups mean customers can enjoy a seamless mobile experience as they browse the Internet, use social messenger services or stream videos on UAE WiFi by Etisalat", he added. UAE WiFi by Etisalat benefits from fibre backhauling, using

Etisalat's extensive fiber-optic network enabling speeds of up to 300Mbps. "It is an efficient, more competitive solution in the market", said ElKhouly. In order to use the service customers visiting key public locations in the UAE including shopping malls, parks, beaches, entertainment and sports venues, airports and much more, should connect to 'UAE WiFi by Etisalat' WiFi SSID signal. After one time registration, Etisalat will send SMS with PIN number to ensure safety and security. Customer than should use their mobile number as login and PIN number as password. Once registered customer will be given a choice to either use his free WiFi allowance if he is eligible to it, or to choose the paid package.

GBI joins DE-CIX and UAE-IX internet exchanges

GBI, a global service provider that owns and operates a multilayer carrier neutral network connecting the world to the Middle East, has joined two of DE-CIX's key global Internet exchanges: DE-CIX in Frankfurt, Germany, and UAE-IX in Dubai. In addition, GBI has joined the DE-CIX Partner Program, which enables GBI to be an official DE-CIX reseller. On the occasion of the announcement, Amr Eid, Chief Commercial Officer of GBI said, "The massive capacity growth projections for the Middle East have prompted a rethink of the industry's business model. Today, GBI focuses on ensuring Internet traffic is transported and managed across a reliable, diverse and secure network. That is why DE-CIX and UAE-IX are key elements to our strategy. We look forward to providing greater value to our allies, partners and the whole value chain." Harald A. Summa, DE-CIX CEO added, "Internet traffic growth is exploding in the Middle East. We welcome such a robust carrier to our DE-CIX Frankfurt and UAE-IX exchanges because of the important traffic that GBI will transport to and from the Middle East. GBI has a critical role in ensuring the high quality of the Internet in the Middle East. We also welcome their participation in our Partner Program, as this will expand the number of service providers from a broad geographic region that can interconnect and peer with key global carriers."

Eutelsat steps up African broadband plans

Eutelsat Communications unveiled the next step in its broadband strategy for Africa with the order from Thales Alenia Space of a new-generation High Throughput Satellite offering unprecedented operational flexibility. To be launched in 2019, the all-electric satellite will be the first to use Thales Alenia Space's new Spacebus Neo platform. Eutelsat's order of a high-capacity broadband satellite follows its recent announcement of the lease of Ka-band capacity on the AMOS-6 satellite that will enable broadband services to be delivered in Sub-Saharan Africa from the end of 2016. With this follow-on standalone satellite, Eutelsat will broaden its African footprint, deliver significant resources for broadband services and set a new benchmark for flexibility in High Throughput Satellites. By using the all-electric Spacebus Neo platform, that combines high efficiency and light weight, Eutelsat will also benefit from competitive launch conditions. The baseline mission of the new satellite is to provide 75 Gbps of capacity across a network of 65 spotbeams that together provide quasi-complete coverage of Sub-Saharan Africa. The satellite will address direct-to-user consumer and enterprise broadband services using dishes from approximately 75 cm. It will also be used for community networks connected to Wi-Fi hotspots, mobile phone backhauling and rural connectivity. Commenting on the contract, Michel de Rosen, Chairman and CEO of Eutelsat, said: "We are excited by the opportunity to bring the most advanced satellite broadband technologies to Africa. With the Spacebus Neo platform proposed by Thales Alenia Space we can push back new boundaries in High Throughput Satellites in order to deliver quality and affordable broadband services in the many countries in Africa where the drive to increase Internet penetration is a key priority." Eutelsat has the option in the coming months to upscale the satellite to significantly increase overall throughput and service areas. Eutelsat's African broadband business, including sales, will be managed by a newly created London-based affiliate. Jean Loic Galle, President and CEO of Thales Alenia Space, added: "We are very proud of our selection by Eutelsat to deliver the first all-electric

Spacebus Neo satellite. Spacebus Neo combines proven heritage with innovation to offer a fully modular platform with a smart Ka-HTS payload for unrivalled flexibility and maximum throughput. This selection reflects the productive teamwork between Thales Alenia Space and Eutelsat to develop the solution that best addresses user needs and HTS market expectations. This contract is also a concrete result of the support by the European and French space agencies for the development of Neosat as well as by the French Very High Throughput section of the French Investment Plan called PIA, "Plan d'Investissement d'Avenir".

Qualcomm, ZTE sign new 3G/4G license

ZTE Corporation has signed a new worldwide 3G/4G license agreement with Qualcomm Incorporated. The license includes terms that are consistent with the rectification measures that Qualcomm submitted to China's National Development and Reform Commission (NDRC) in February, 2015. Under the terms of the agreement, Qualcomm has granted ZTE royalty-bearing patent licenses to develop, manufacture, and sell 3G and 4G products, such as smartphones, modules, and infrastructure equipment, including 3-mode (LTE-TDD, TD-SCDMA and GSM) smartphones sold for use in China. "ZTE is glad to have concluded a new agreement with Qualcomm," said Mr. Guo Xiaoming, General Counsel of ZTE. "This agreement provides a solid foundation for Qualcomm and ZTE to expand and strengthen the long term relationship between the companies in the future." "Qualcomm is pleased to have again reached an agreement with ZTE that reflects the established value of Qualcomm's patent portfolio, supports future collaboration between Qualcomm and ZTE, and strengthens the relationship between the companies," said Eric Reifschneider, Senior Vice President and General Manager of Qualcomm Technology Licensing. "This agreement with ZTE is another important step for our licensing business in China, and we look forward to continuing our progress in concluding agreements with Chinese device companies."



▼ REGIONAL NEWS

REGIONAL UPDATES

Pakistan to Get its First Internet Exchange Point in Two Months

Pakistan is soon going to setup its first internet exchange point for all local ISPs that will help reduce latency rates for domestic traffic with-in the country to a greater deal. Under the headship of Pakistan Telecommunication Authority and in collaboration with Internet Society (ISOC), this Internet Exchange Point will be located in Islamabad for which hardware is currently being setup and exchange is likely to go live with-in next two months. Majority of ISPs, including PTCL, are already on-board while discussions with remaining ISPs of Pakistan are under way to make sure that all domestic internet traffic goes through this Internet Exchange Point. For those who aren't familiar, an Internet Exchange Point is used to exchange local internet traffic internally with-in the country between ISPs instead of looking-up international exchanges and networks. Currently if you are sitting on PTCL and if a ping is sent for a website/server that is hosted on TransWorld for example, then traffic is routed through international exchanges that reside outside Pakistan. Such an internet request, which is local — and distance between client and server could be just few kilometers — has to travel the all way to an exchange that's hosted abroad and then will hit back local server after travelling thousands

of kilometers, increasing latency rates and decreasing data transfer rates. ISPs readiness — in terms of hardware and software — for joining this exchange is already there and there's nothing much technical that's required on ISP's part to join the local internet exchange. This internet exchange is going to help local hosting companies, data centers, service providers, banks, corporations and everyone who is hosting websites/ services locally with-in Pakistan. It will also benefit ISPs greatly by not only enhancing their performance but also by reducing their bandwidth costs. As mentioned above, this internet exchange is likely to be active and running with-in two months. We will update our readers when there's any further development on this.

STC to acquire all of Viva Kuwait's shares

Saudi Telecom Company (STC) has submitted an offer to the Kuwaiti Capital Market's Authority (CMA) for the buyout of all of Kuwait Telecom Company's (Viva's) shares. The cost of purchase will be funded by self-financing, with STC disclosing that the details of its offer will be announced once it receives CMA's approval. According to TeleGeography's GlobalComms Database, Viva is owned by STC (26%), the Government of Kuwait (24%) and the Kuwaiti public (50%). In

December 2011 STC announced that it was set to list Viva's shares on the Kuwait Stock Exchange (KSE). National Bank of Kuwait (NBK) Capital was selected to manage the listing, which took place on 14 December 2014, with a total of 499.4 million shares offered to domestic investors. Viva previously staged an initial public offering (IPO) in July 2008, going on to raise KWD25 million (USD94 million) in a sale open to Kuwaiti nationals only.

Video fuels mobile data traffic in MENA

Mobile data traffic in the Middle East and North East Africa (Mena) is expected to grow 16 times between 2015 and 2021, fuelled mainly by the usage of video in smartphones. During the same period, the global data traffic is expected to grow by 10 times. In June, mobile network equipment maker Ericsson said in its mobility report that data traffic will grow by 14 times in Mena and eightfold globally. "Data traffic increased by around 80 per cent in 2015 from the previous year. It is expected to rise by around 60 per cent between 2015 and 2021. The amount of data used monthly by each active smartphone will increase substantially from an average of 1.2GB in 2015, to around 10GB in 2021," said Rafiah Ebrahim, President of Ericsson Region Middle East and Africa. She said the massive growth will be driven by availability of affordable smartphones, coupled with availability of mobile broadband networks in highly populated countries, increased number of subscribers moving to faster networks and growth of the video consumption. While the region is extremely diverse and some countries are only just adopting long-term evolution (LTE) networks, she said that Ericsson is seeing a rapid rise in terms of data consumption and connectivity. "We are currently working with our partners in the industry to introduce the next generation technologies, which will fuel the transformation to the networked society throughout our region," she said. According to latest Ericsson Mobility Report, the region as a whole had around 690 million mobile subscriptions at the end of 2015. Between 2015 and 2021, it is forecast that mobile subscriptions will grow at a compound annual growth rate of four per cent, amounting

to 880 million. By 2021, Rafiah said that the number of smartphone subscribers is forecast to reach 430 million, accounting for around 50 per cent of all mobile subscriptions. Around 40 per cent of countries in the region have launched LTE, but the technology only accounts for around 4 per cent of subscriptions, most of which are concentrated in the Gulf countries. However, she said that LTE subscriptions are expected to increase to 290 million by the end of 2021, amounting to over 30 per cent of all mobile subscriptions.

Vodafone Egypt invests \$1.3 billion within 2014-17

Pakistan Telecommunications Authority (PTA) in collaboration with The Internet Society -Asia Pacific (ISOC-APAC) is holding three days INET Islamabad - Pakistan's first-ever conference on the Digital Economy and the role the Internet can play in sustainable development. The inauguration ceremony was held in a local hotel today. The three-day conference running from November 16-18 is featuring national and international speakers and ICT experts. The steps required and being taken towards a digital economy in Pakistanis being discussed during the conference. ICT agenda required for sustainable development is also a focus of the conference. Special Assistant to the Prime Minister on Political Affairs and the chief guest at INET Barrister Zafarullah Khan appreciated the efforts of the Internet Society and the PTA in bringing to the fore issues at the national level, the important role the Internet and ICTs play and how the Internet has been one of mankind's greatest inventions. He also emphasized the need for inclusive sustainable development across all sectors and the need for Cyber Security. Earlier on, Dr. Syed Ismail Shah, Chairman PTA, opened the conference and highlighted the importance of a forum like INET where the challenges, opportunities and required development towards a progressive ICT industry can be discussed in an open and collaborative manner. He said that broadband penetration has increased from less than 2 per cent to more than 10 percent within last one year exhibiting the vast growth potential

for the sector and direct and indirect benefits for the economy. "Affordable and reliable access to the Internet, and Trust in the Internet to provide a secure cyberspace are two things that are critical to the Digital Economy. Both these issues need collaboration-by-many approach no one stakeholder group alone can make it happen", said Rajnesh Singh, the head of the Asia-Pacific region at ISOC in his welcome speech. Along with other panelists, he also emphasized how affordable connectivity and reliable Internet access is key for all sectors of the economy at large.

Oman to spend RO450 million to boost ICT services

Oman is focusing on making broadband more affordable and will spend RO450mn over the next ten years to improve communication services, according to Dr. Suleiman al Hedaithy, chairman, FTTH Council MENA. He said that the Oman Broadband Company (OBC) will be expanding its fibre network to 130,000 more homes and businesses in Muscat by the end of 2016. Dr. Hedaithy was addressing the gathering on the opening day of the seventh edition of the Fiber to the Home (FTTH) Council MENA Conference which was inaugurated by Dr. Ahmed bin Mohammed bin Salim al Futaisi, Minister of Transport and Communications on Tuesday. "It is estimated that over 90 per cent of Muscat governorate will be covered by fiber optic by 2021 and most of the other urban areas across Oman will be covered by 2030-end. The ultimate target is to connect all homes and businesses to the national broadband network by 2040." He said that in line with the overall strategy, "Oman's Ministry of Transport and Communications and the Telecom Regulatory Authority are going ahead with their plans to provide broadband services in cities and rural areas through satellite and wired communications". Keynote speeches were delivered by Dr. Salim Sultan al Ruzaiqi, CEO of Information Technology Authority and Ebrahim al Haddad, regional director of the ITU Arab Regional Office. The conference includes a 'World of Applications' session, which is showcasing the latest applications and e-services by various companies. Dr. Hedaithy said that the decision

to hold the conference here was because of the efforts taken by the Omani government and ICT stakeholders in introducing fiber optics infrastructure in the region. He commended the efforts of OBC in facilitating the development of the new fiber-based national broadband network. The conference is being held under the theme 'The Edge of a Brighter Tomorrow' and will conclude on Wednesday. The eighth edition of the annual conference will be held in Tunisia next year.

Etisalat and LEARN hold employment training for youths

Etisalat has partnered with the Leadership Empowerment and Resource Network (LEARN) to hold a three-day capacity building program for unemployed youths. This is in keeping with its unrelenting contribution to the development of the Nigerian Youth. The training, which was coordinated by LEARN, was aimed at addressing the challenges of employability and equipping unemployed youths including fresh graduates with requisite employment tools that can give them advantage in the job market. Speaking about the program which has successfully trained hundreds of youths in the last four years, the Vice President, Regulatory and Corporate Affairs, Etisalat Nigeria, Ibrahim Dikko, affirmed that the capacity building program seeks to empower unemployed youths with basic skills for gainful employment. "Etisalat Nigeria is committed to the development of the Nigerian youth, and through this partnership with LEARN, which has been going on since 2011, we have been able to educate and empower hundreds of employable youths including fresh graduates with the requisite skills needed to function in their different career aspirations," he said. While decrying the increasing rate of unemployment among the populace, Dikko expressed optimism that the training program would further bridge the gap between the employed and unemployed classes in the society. Also speaking, the training facilitator and associate partner, Ace and Brands, Demola

Aderibigbe, said the program module was designed to help fill noticeable skill gaps found among job seekers. He identified such to include cognitive capacity, inter-personal communication and comportment among others. The Etisalat-sponsored Employment Training is part of the company's corporate social responsibility interventions which cover various areas of human life including education, health, sports, etc.

Egypt seizes 4% of France's Orange total revenues

The Egyptian market is participating in the total revenues of France's Orange by four percent, Michel Monzani-Senior Vice-President, Middle East & North Africa Operations- stated Thursday. In a press conference held in firm's headquarters in Paris, Monzani said the total revenues of the French multinational telecommunications corporation are estimated at €40 billion. He added that Orange has offices in 28 states all over the world; 19 are in Middle East and Africa. The activities of Orange's 19 offices in Middle East and Africa are participating by 11 percent in its global revenues. The total number of Orange's clients all over the world has reached 260 million; 110 million clients in Africa and Middle East, the official. Monzani asserted that Egypt is one of the largest markets in which Orange -the owner of Mobinil- is working since the number of Egyptian users has reached 33 million, representing 33 percent of Africa and Middle East clients.

ITU, United Arab Emirates sign new partnership framework

ITU has signed a new partnership initiative with the Telecommunications Regulatory Authority (TRA) of the United Arab Emirates aimed at providing a framework for increased cooperation to carry out joint projects in the area of ICT development in the Arab Region. The new agreement was signed on 3 November in Geneva, with an initial contribution from TRA of CHF 150,000. ITU Secretary-General Houlin Zhao welcomed the new partnership, commenting that "The UAE is a true global centre of innovation and is

the ideal partner to work with ITU to spread access to information and communication technologies (ICTs) and ensure that all people, no matter where they live, can benefit from the opportunities offered by ICTs. We look forward very much to developing exciting new initiatives with the TRA team." Hamad Al Mansouri, Director General of the TRA, stated: "Today marks another important milestone in the relationship between the ITU and the TRA as we sign a very significant framework cooperation agreement to provide project-based assistance to developing and Least Developed Countries in the field of ICTs. We look forward to working together with ITU in the implementation of this agreement, and to continue supporting ITU in its vision to connect all the world's people."

\$43.6 million expected for Egyptian Mobinil rebranding scheme

French telecom leader Orange is expected to allocate around 350 million Egyptian pounds (US\$43.6 million) to rebrand its affiliate in Egypt, Mobinil, according to financial estimates. Mobinil, a 98.92%-owned subsidiary of Orange, will be rebranded as Orange within 2016. Meanwhile, Yves Gauthier - CEO of Mobinil - said the rebranding process would not only help the company to compete locally, but also globally to become comprehensive technological services provider, side by side with giant trademarks Google and Facebook.

Viva Kuwait reports 12% increase in profits in 9M15

Kuwait Telecom Company (Viva), which was listed on the Kuwait Stock Exchange (KSE) in December 2014, has reported net profit of KWD32.8 million (USD108.2 million) for the nine months ended 30 September 2015, up by 12% year-on-year from the KWD29.3 million reported in the corresponding period of 2014. The Kuwaiti company disclosed that its revenues amounted to KWD204 million in 9M15, up by 17% y-o-y, while its customer base increased marginally to 2.4 million, a 1% improvement on the figure reported twelve months prior.



▼ REGULATORY NEWS

REGULATORY UPDATES

Qualcomm licensing found to violate Korean competition law

The Korea Fair Trade Commission has started an investigation into Qualcomm's licensing practices. Qualcomm said it received the Case Examiner's Report with allegations and will prepare a response. The report alleges, among other things, that Qualcomm does not properly negotiate aspects of its licenses, and that its practice of licensing patents only at the device level and requiring that chip customers be licensed to its intellectual property violate Korean competition law. The report proposes remedies including modifications to certain business practices and monetary penalties. Qualcomm said the allegations in the report are "not supported by the facts and is a serious misapplication of law". Its patent licensing practices used for almost two decades, "are lawful and pro-competitive", the company added. The group said it will mount a defense at the Commission hearings in the hope that the Commission will reject the conclusions of the Examiner's Report. The FTC already fined Qualcomm KRW 260 billion (USD 235 million) in 2009 after concluding that it abused its dominant position in selling chips to mobile phone makers in Korea. As part of that case Qualcomm agreed to disclose information that would allow Korean companies to develop software for its chips.

Overnight Tech: FCC puts online video regulations on hold

Federal Communications Commission rules for online video appear to be on hold. FCC Chairman Tom Wheeler said the FCC has come to realize the online video market might be evolving too quickly for regulations at the moment. Earlier this year, he planned to issue final rules in the fall. "The purpose of rule making is to learn," Wheeler told lawmakers at a House Energy and Commerce hearing. "We learned that [a] vast number of things are developing very rapidly, and we have not moved forward on that notice of proposed rulemaking and don't see, until situations change, we would." The agency issued the notice last year to expand the definition of a video service provider that offers multiple channels of prescheduled shows to include online video. The update would affect online providers offering multiple channels with prescheduled lineups of shows, rather than companies like Netflix or Amazon, which allow customers to stream video on demand from its library. Nonetheless, companies like Apple, Microsoft and Amazon and others have raised concerns about online video regulation at the moment, not knowing their future plans. Other Republican FCC commissioners and even the lead Democrat on the Energy

and Commerce Committee cautioned the FCC to pump the breaks. The FCC chairman also said rules regarding its expanded privacy authority over Internet service providers would not come until at least "early next year." One unsettled issue under the FCC's net neutrality rules is its authority to protect broadband customers' privacy — an authority that has traditionally applied to telephone companies.

Regulator seeks views on new BOOT broadband model

Indian telecom regulator has sought comments from industry stakeholders for deciding on an implementation model for BharatNet, which can deliver the project within costs and timelines, as the government aims to take broadband to villages of the country under the Digital India plan. The Telecom Regulatory Authority of India (TRAI) has suggested a build-own-operate-transfer (BOOT) model as an alternate, in addition to three proposed models by a DoT committee earlier this year, while issuing the consultation paper Tuesday. The authority has sought views to decide on which of the models would be suitable. "The objective of this consultation paper is to discuss strategies to find best model for implementation of BharatNet," TRAI said, while giving December 7 as the last date for submission of stakeholder comments. The government had approved the National Optical Fibre Network (NOFN) project of providing 100 Mbps to all gram panchayats, back in 2012 but the project had moved slowly. The project which has now evolved into BharatNet, plans to create a network by 2017 for providing affordable broadband connectivity of 2 Mbps to 20 Mbps to all rural households and institutions. The cost for setting up the massive broadband plan is estimated to be around Rs 74,000 crore. In the consultation paper, TRAI has asked for the challenges, risks and advantages involved in the three models proposed by the telecom department and that of the BOOT model. The regulator has also asked for eligibility criteria required for the executing agency to avoid conflict of interest, and measures required for avoid monopolistic behavior of executing agency. Among other issues, it has also sought views on the funding of the project and in case it

is viability gap funding, it has asked for stakeholder views on the method required to determine the maximum value of funding for each state or service area. The authority has also asked for responses on the measures required that broadband services remain affordable to the public at large and has also asked for suggestions on imposing fiscal incentive on the agency for completing the project in time or disincentive in case of delay.

Philippines House bill proposes giant fine hike for operators

A Philippines lawmaker has proposed a thousand-fold increase in penalties on telecoms operators that don't meet the regulator's orders to improve service, the Inquirer reported. Representative Susan Yap filed a bill in the House proposing to raise the fine on the country's operators from just PHP200 (\$4.20) per day to PHP300,000 (about \$6,300) per day when they don't meet orders issued by the National Telecommunications Commission (NTC) to curb violations, which cover everything from overcharging to dropped calls and slow broadband speeds. Under the bill, the penalty would be capped at a maximum of PHP5 million instead of the current PHP25,000. The higher penalties would force operators to comply with NTC orders, Yap said. The Inquirer quoted her as saying: "These penalties are obsolete and insignificant given the high level of income earned by public communication entities." Globe reported record earnings of PHP5.4 billion (\$115.6 million) in Q3, up 46 per cent from a year ago, while market leader PLDT, which offers mobile service under the Smart and Sun Cellular brands, posted a net income of PHP6.6 billion during the quarter.

Minister directs telecom regulator to deal with Facebook on regulating content

Bangladesh's State Minister for Post and Telecommunications Tarana Halim has directed the BTRC to strike an agreement with Facebook Inc to prevent posting of "objectionable" contents on the social networking site. She gave the directive while

interacting with the officials of the telecom regulators on Tuesday. It was her first visit to the commission after she assumed charge. The minister said Facebook had proposed a similar agreement during the tenure of erstwhile BNP-Jamaat coalition government, but the latter ignored it. Facebook had then sought a deed of indemnity against any objectionable content. "It's imperative to have an agreement with Facebook so that we can regulate the contents which are defamatory, disrespectful towards women, encourage militancy, and create instability in the country," she said. There have been instances of Facebook being used to harass people. A few years ago, Buddhist community at Ramu in Coax's Bazar was attacked following rumors spread on the social networking site. Reports claim since Bangladesh does not have



any agreement with Facebook, the government's request to prevent the posting of 'objectionable' contents often goes unheeded. In the past two and a half years, Bangladesh government sought information of 37 persons from the Facebook, but to no avail. "I want visible changes on cyber security issues. You know many women victims of cyber crimes in rural areas have even committed suicide," Tarana Halim told the BTRC officials. She also directed the officials to continue their drive against illegal mobile-phone handsets and VoIP. Tarana said they are now ready to launch dot bangla (.bangla) domain on February 21, 2016.

Verizon gets FCC waiver to begin offering Wi-Fi Calling

The Federal Communications Commission on Friday gave Verizon permission to begin offering Wi-Fi

Calling. As noted by MacRumors, the Commission granted the carrier a waiver today that will allow it to rollout the feature, which was introduced last year with iOS 8. The news comes a month after AT&T was granted the same waiver, and it activated Wi-Fi Calling for compatible devices days later. For those unfamiliar with the



option, Wi-Fi Calling allows users to place a phone call over a local Wi-Fi network instead of their wireless connection—which is particularly helpful in areas with poor cellular service. Verizon is the only major US carrier that doesn't support it. Today's FCC waiver gives Verizon permission to offer Wi-Fi Calling without the typically-required support for TTY, a service for those with disabilities. There's no word on when it will be available for Verizon Wireless subscribers, but we'll let you know as soon as it goes live.

High bids for 4G licenses a boost for Thai economy and the IT sector

THE THAI economy and the information technology sector will benefit from the awarding of new 4G telecom licences as early as next year as the bid winners will quickly implement their investment plans, according to Supant Mongkolsuthree, chairman of Federation of Thai Industries. Supant, who is also president of TKS Technologies, said the relatively high bidding prices that exceeded Bt35 billion per licence could, however, affect consumers in terms of service pricing. According to a JP Morgan research, the bidding prices have far exceeded analysts' expectation since each licence was earlier thought to cost just around Bt15 billion to Bt20 billion. Such a huge premium for the 1800mhz spectrum would also set a high expectation on the pricing of 900Mhz spectrum auctions, which

will take place next month. The high bid prices will also have negative implications on revenues and cashflow as reflected by yesterday's decline in the prices of Thai telecom stocks, especially those of DTAC and AIS. The high bid prices will also have negative implications on revenues and cashflow as reflected by yesterday's decline in the prices of Thai telecom stocks, especially those of DTAC and AIS. Supant said the 4G auction should benefit consumers rather than result in higher service prices. Speaking at a Thammasat Economics Association seminar, he said there is nevertheless a mechanism that will govern the pricing of voice and data services. The winners of the 1800-MHz spectrum auctions must offer 4G tariff rates lower than existing 3G service charges where the maximum 3G rates are currently less than Bt0.69 a minute for voice service and Bt0.26 per megabyte for data service. Kirida Bhaopichitr, research director for the International Research and Advisory Service at Thailand Development Research Institute, said the National Broadcasting and Telecommunication Commission's regulation to cap 4G tariff rates to be lower than existing 3G service charges should limit the financial burden being passed on to customers because of the high 4G prices. "It will be hard for companies that have to pay a lot in this auction to try to increase the service charges because of the NBTC's condition," she said.

British PM promises 10Mbps broadband speed by 2020

British Prime Minister David Cameron has pledged that the entire nation will have access to a faster broadband connection with at least 10Mbps by 2020. Cameron's announcement is aimed at ensuring consumers have access to a broadband connection with a speed of at least 10Mbps, no matter where in the country they live or work and would put broadband on a similar footing to other basic amenities such as water and electricity, BBC reported. "Access to the internet shouldn't be a luxury, it should be a right – absolutely fundamental to life in 21st Century Britain," he said. Cameron, who is expected to set out further details next week, added, "Just as our forebears effectively brought

gas, electricity and water to all, we're going to bring fast broadband to every home and business that wants it. "We're getting Britain – all of Britain – online, and on the way to becoming the most prosperous economy in the whole of Europe." Officials said that more than 83 percent of homes and businesses in Britain currently have access to a superfast broadband connection, with that number set to rise to 95 percent by 2017.

Vodacom South Africa calls for OTT regulation

Vodacom South Africa wants a regulatory approach to data-driven over the top (OTT) applications such as Facebook-owned WhatsApp. WhatsApp has grown to over 10 million users in South Africa, according to research from World Wide Worx and Fuseware. Vodacom said that it has experienced a 33.5 percent data growth rate but that the company had invested ZAR 6.2 billion in South Africa to cater for greater internet usage. This follows a ZAR 5.8 billion investment in 2014, Fin24 reported. Shameel Joosub, Vodacom Group's CEO told Fin24 in an earnings call that "a lot of your data growth is driven by the same people who are trying to cannibalise you." Joosub's view echoes those of MTN South Africa CEO Mteto Nyati in a recent interview with Fin24. Nyati said certain players which are getting huge benefit out of an industry without making any investment. Joosub went on to call for OTT operators to face greater scrutiny. However, regulator Icasa (the Independent Communications Authority of South Africa) is not currently engaged in investigations into OTT players. Joosub said that the load that OTT providers place on the network could have an impact on pricing for data services.

Telecel takeover and change in stakeholders underway

Reports from Zimbabwe suggest that the government has made a move to take over a majority stake in struggling mobile operator Telecel. The Zimbabwe Independent writes that the deal will be carried out via state-owned ISP Zarnet, with support from the government pension fund,

the National Social Security Authority (NSSA). The report says that Zarnet has agreed to pay USD40 million for Amsterdam-based Vimpelcom's 60% stake and the assumption of Telecel's debt, which totals around USD80 million to USD100 million. The NSSA is thought to be fronting the money for Zarnet, and if the cash-strapped ISP fails to make the required repayments then the NSSA will assume control of the majority interest in Telecel. The government is hoping to take full control of Telecel by also buying out 40% shareholder Empowerment Corp (EC), which is a consortium of local investors, though negotiations are said to have stalled due to EC's valuation of its stake. While there has been no official confirmation from any of the parties involved, the Independent writes that it 'has it on good authority that the deal has been closed'. Telecel has faced challenges in its mobile licence renewal payments and also its ownership structure, with Zimbabwean law requiring the country's telcos to be at least 51% domestically owned. The operator lost second position in the wireless market to state-owned NetOne in 2014, and claimed around two million subscribers by the end of June 2015, according to TeleGeography's GlobalComms Database, behind NetOne's 3.2 million and Econet's 6.7 million.

Vodafone CEO hits out at UK 'remonopolisation', hails results turnaround

Vodafone chief executive Vittorio Colao on Tuesday launched a scathing attack on the state of the U.K. telecoms market, accusing BT's networks business of exploiting consumers for profit and calling for strong regulatory controls on the incumbent's planned acquisition of mobile operator EE. His comments came in a U.K. radio interview, after the publication of the telecoms group's fiscal first half results, which showed a return to growth in revenue and EBITDA, and an easing of pressure in Europe. "Openreach is clearly...not working to help competition and choice," Colao told BBC Radio 4's Today programme. The unit is "making extra profit out of what they charge to the British consumers and instead they should be an independent company really bringing next-generation networks...

to the homes of the British citizens," he said. U.K. Internet users are stuck in "slow lanes", he said, noting that in the U.K. much of the broadband discussion is about rolling out 10 Mbps services, while speeds are much faster elsewhere. "In Southern Europe I am selling, with Vodafone, 100 Mbps, 200 Mbps, 300 Mbps," Colao said. Splitting Openreach from BT would avoid the biggest risk in the market: "remonopolisation," the executive said. He pointed out that Deutsche Telekom is set to become a major shareholder in BT, presuming the EE deal goes ahead. "Companies like these...like to use what they have, which is the copper network, and modernise it to basically reduce competition. And companies like us, but also Sky or TalkTalk or other companies, are forced to use it," Colao said. "It might be working financially for Gavin Patterson and BT...They are overcharging consumers and now they want to use taxpayers' money to bring Internet to the rural areas," he added. Meanwhile, Vodafone customers face "delays, delays, delays" because half of the access lines it requests from Openreach are delivered late. BT's dominance will grow with the acquisition of EE; the combined entity will control 90% of the lines accessing mobile sites in the U.K. and 60% of the 4G-ready frequencies, Colao claimed. The Communications and Markets Authority (CMA) gave its preliminary approval to the tie-up two weeks ago, ruling that it will not harm competition in the retail or wholesale markets. "We are unwinding 30 years of competition," Colao warned. "If [the EE deal] happens, it should happen with strong regulation," addressing in particular the combined company's dominance in the fixed-line market and its strong presence in the content space, he said. Vodafone had 75,000 fixed broadband customers in the U.K. at the end of September, up from 70,000 three months earlier. It opened up its fixed broadband offer to the whole market – not solely to Vodafone mobile customers – last month. Vodafone posted revenues of £3.09 billion in the U.K. in the first half of the year, up by 2.7% year-on-year on a reported basis. Service revenue fell by 0.1% organically, Vodafone said, adding that it saw improving trends in fixed-line and enterprise offset by a slowdown in consumer mobile. In Europe as a whole the operator reported a 1.3% decline in

service revenue for the six months to £12.1 billion, while EBITDA was up 1.1% due to cost controls offsetting the revenue decline. The telco said it is starting to feel an easing of regulatory pressures and a steady improvement in the macroeconomic climate in Europe. At group level, revenue grew by 2.8% organically to £20.3 billion and service revenue increased by 1% to £18.4 billion. "We have reached an important turning point for the group with a return to organic growth in service revenue and EBITDA in the first half of the financial year," Colao said, in a statement. The CEO talked up his company's spending, including Project Spring, the multi-billion-pound investment programme it unveiled two years ago, which is now starting to have an impact on financial results. "We also remain keenly focused on increasing efficiency and improving margins," Colao said. "We expect progress to continue in the second half of the year."

Telecommunications reforms expected in Algeria

After the relatively late launch of 3G services in 2013, Algeria is now looking to accelerate its rollout of 4G LTE, with a successful speed test conducted earlier this year and a series of base stations being constructed across the country. The new minister for the post office and ICT, Houada Imane Feraoun, confirmed to local media in late August that the government hopes to see mobile 4G launched in the coming months, with the final draft of the request for tender being evaluated by the sector regulator, the Regulatory Authority for Telecommunications and Postal Services, and a call for tenders expected early next year. "Algeria has succeeded in improving its internet network to a significant degree, despite its late entry and lack of a clear ICT strategy," she told media in late July, emphasising the crucial role played by the deployment of fibre-optic cables throughout the country, which has helped to modernise ICT infrastructure. In late May Ooredoo Algeria – which, along with Algérie Télécom's Mobilis and Djezzy, is one of the country's three mobile operators – announced a successful 4G test, which achieved downlink speeds of over 300 Mbps and uplink speeds of

50 Mbps. Speaking to local media, the company's director, Joseph Ged, said, "As soon as the regulatory conditions are met, 4G mobile will allow our subscribers to benefit from ultra high-speed mobile internet, with positive knock-on benefits for the national economy." The company also plans to begin tests on voice over LTE services, Ged added. While AT launched wireless 4G services to business subscribers in May of last year, the technology was limited to data transmission with no telephony component, and was only offered in fixed mode. Subscribers can access wireless internet using a fixed router and a SIM card, but the service is only available within a limited radius and cannot be used with a mobile handset or portable USB key. Since the service was launched, AT has been working to modernise its network, building a series of base stations in wilayas (provinces) across the country. Five new base states were opened in Tlemcen in mid-July, with another 10 opened in Ouargla in late September, according to local media reports. Djelloul Boughendja, operational director of telecoms in Tlemcen, told media in July that AT also plans to launch 4G voice services. The rollout of 4G is likely to be a boon for operators. As in other emerging markets, Algeria is approaching a saturation point in terms of mobile voice, with value-added data services seen as the key to boosting average revenue per user. According to the World Bank, 93% of Algerians have mobile subscriptions, compared to 132% in Morocco, 128% in Tunisia, and 114% in Egypt - where many people use more than one SIM card. Restructuring the sector to allow for greater competition continues to be seen as key to the industry's long-term growth potential, with regulators signalling that a new ICT law, expected in late 2015 or early 2016, could include long-awaited reforms. The current law dates to August 2000 and is widely seen as outdated - for example, it does not mention the internet. While a previous draft ICT law was submitted to parliament in 2013, it was postponed later that year. "We are working on a regulatory plan that will open up competition. There are new measures that will be taken," Feraoun said during a visit to Béjaia in October. The government has indicated that a wide variety of options are on the table. The sector is likely to see a bit of an ownership shake-up in the coming months. According to Feraoun, there

is no question of AT being privatised, as it must remain "a strategic domain of the state"; however, she told local media in October that Mobilis' status as a wholly owned subsidiary of AT is under review, with an initial public offer of a 20% stake in the brand on the Algiers Stock Exchange still being considered. The sector has already seen some new reforms in terms of taxation. In September the government increased the value-added tax on mobile data from 7% to 17%, while also doubling the tax rate on operator revenues to 2%, in a bid to bolster government revenues in the face of weaker oil prices.

Australia's ACCC may regulate fast broadband

Britain's Competition and Markets Australian competition regulator ACCC is considering introducing regulation specifically for super-fast broadband access services (SBAS) to prevent local monopolies dominating in specific areas. The regulator said it plans to simplify and clarify the regulations that apply in this area. Currently some superfast broadband services are subject to license conditions while others aren't regulated at all. The ACCC has produced a draft declaration that would apply to services with a download speed of more than 25 Mbps. In areas with no competition providers would need to provide wholesale access to the networks for retail providers. But in areas where the operator is facing competition this will not apply. According to the regulator the proposed new regulation would not apply to services provided by NBN Co - the state-owned company rolling out the National Broadband Network - or over the HFC networks due to be transferred to the company. "The ACCC considers declaration of a superfast broadband access service will promote the long-term interests of end-users because it is likely to promote competition between telecommunications providers supplying services to end-users," ACCC chairman Rod Sims commented.

Telecom policy research matters to Bangladesh

Over the last 20 years, the issuance of licenses to private operators and also enforcing them, have been the

core function of telecom policy-makers and regulator in Bangladesh. The accelerated growth of telecom penetration, from less than 1.0 per cent to more than 70 per cent, has been frequently cited as triumph of policy and regulation. The growth of revenue from less than USD\$200 million to more than \$3.0 billion, coupled with proportionate growth in tax and regulator's revenue collection, has also been cited as success of market-driven reform of the telecom industry. Except one, although most of the operators are struggling to reach to profit, after making investments worth billions of dollar over the last 15 years, but surprisingly serious questions are not being asked, except tax level, about policy weaknesses to create possibilities of profitable competition to ensure sustainable benefit from market-led reform - a never-ending progression of increasing surpluses for both consumers and producers simultaneously. It appears that the prevailing telecom policy-making in Bangladesh is primarily dominated by the approach of disintegrating, both vertically and horizontally, the industry and issuing as many as possible licenses, to collect as much as possible license fees. In many situations, the challenge of creating profitable possibilities has not been adequately looked upon as the responsibility of either policy-makers or regulator in Bangladesh. Moreover, many investors, mostly driven by irrational exuberance, secured license and borrowed money to lay network without doing adequate homework -- resulting in colossal loss and also piling up of lawsuits. Although upon segmenting the industry by more than a dozen ones and issuing licenses to more than 100 operators, the regulator has collected more than a billion dollar as license fees, but the level of investigation to assess the merit of such exercise on key parameters, such as cost, price, value and profit, appears to be inadequate. The market reform of the telecom industry faces a serious intellectual barrier: how to benefit from economies of scale to reduce cost by introducing additional operators in an imperfect industry, which has the minimum economies of scale even larger than the size of the entire market? In such an industry, the monopoly makes better usages of economies of scale benefit, than introduction of multiple operators. For this reason, regulated monopoly,

instead of competition, had been the preferred option to govern the telecom industry for more than 100 years -- across the globe, including the USA. But monopoly has four major limitations: 1. Information asymmetry that makes regulation an erroneous tool, 2. Deadweight loss caused by sub-optimal production by monopolist to maximize profit, 3. Slow response to innovation, and 4. Lack of aggressiveness to pursue supply-driven strategy to expand the network and services to benefit from economies of scale and scope, to minimize cost as well as price. The challenge of having an optimum level of segmentation and deciding about number of operators to benefit from competition appears to be formidable -- which outpaces common sense easily. It seems that the success of segmenting the industry further and issuing additional licenses has come to an end in Bangladesh's telecom sector. Many license-holders have got the lesson that license alone does not create profitable business in telecom. By having hundreds of millions of dollar default loans, which may become non-recoverable, lenders have learned that lending to just any license-holder does not ensure profitable return. Upon facing the reluctance from MNOs (mobile network operators) to pick up 4G licenses, the policy-makers and the regulator alike are getting the message that the option of generating additional revenue from licensing spectrum or issuing new licenses is getting harder than before. With stagnant revenue situation, even well-performing operators are having difficulty to encourage investors to be aggressive to break new ground for growth. The obvious question is: how to repeat the vibrancy, coupled with success stories, of the past 20 years? As it has been mentioned that the core challenge of policy-making is to create possibilities of profitable competition to make progress along four major dimensions: 1. Lowering cost, 2. Offer of higher value, 3. Reduction of price, and 4. Making greater profit. It seems that this challenge has been largely missing in the exercise of policy-making and regulation in Bangladesh. As a matter of fact, not only low hanging fruits, but fruits from all existing trees, are already being picked up -- new trees to be grown to pick additional fruits to count future successes: where are those possibilities to grow fruit-bearing new trees? Significant

economic value, as it appears, could be created in many segments of society with low cost, but high value, broadband contents. Some of these segments are: 1. Agricultural yield growth, 2. Addressing socio-economic issues being faced by families of 10 million migrant workers, 3. Online employment generations for millions of graduates, and 4. Online education and training for 40 million students. It is estimated that more than \$10 billion (6.0 per cent of gross domestic product or GDP) additional economic value could be created by exploiting broadband-centric opportunities in these four segments alone. Although operators are busy in serving top of the pyramid, with Facebook, YouTube and other social media-centric usages of broadband, these opportunities are at the bottom of the pyramid. To tap into this huge economic potential, \$10 billion per year, we need to deliver more than 50 GB data to each of 100 million users at a rate of 1 GB/BDT10(USD0.12) - almost 25 times lower than current rate. Core policy making challenge appears to be: how to create possibilities of profitable competition to deliver such huge data at such a low price, primarily at the bottom of the pyramid? To address this core challenge, the policy-makers as well as the regulator should do adequate homework through research along following seven dimensions:

1. Instead of just cellular, how to benefit from combination of multiple technology platforms such as i.3G/4G/5G, ii.ADSL/G.fast, iii. FTTx/FTTH, iv. Ethernet LAN, v. WiFi/WiMax, and v. DOCSIS over Cable TV network to lower the cost.
2. Instead of just segmenting the industry further and issuing additional licenses, focus should be on how to lower the cost and increase value through scale and scope benefits by leveraging demand aggregation as well as creation.
3. Instead of just suing loss-making operators to collect dues, focus should be on how to create possibilities of profitable competition, so that operators do not face financial difficulties to clear dues.
4. Instead of restricting business practices of profitable operators to address market power, focus should be on how to take the advantage of good business practices of profitable operators to open new

growth opportunities, without enabling dominant operators in gaining additional market power to monopolize the market.

5. Instead of focusing on tax rate, the attention should be on options for reducing cost through reuse of already deployed resources to be benefited from scale as well as scope, so that market expands to increase tax base.
6. Instead of just collecting revenue from operators, focus should be on creating possibilities of new business opportunities to encourage them for profitable investment to expand.
7. Instead of just counting subscription, bandwidth consumption or reducing wholesale bandwidth price, focus should be on economic wealth creation through broadband consumption and finding means for profitable reduction of price at the end user level.

It seems that to unlock huge economic growth potential, as high as \$10 billion per year, telecom policy and regulation should focus on research to explore options to decide about optimum path of progression to address four conflicting indicators simultaneously: lower cost, increase value, reduce price and grow profit.



▼ A SNAPSHOT OF REGULATORY ACTIVITIES IN SAMENA REGION

REGULATORY UPDATES

Algeria



President: Mr. Toufik Bessai
[Regulatory Authority for Post & Telecommunication (ARPT)]

A Memorandum of Understanding (MoU) was signed between the Authority for the Regulation of Post and Telecommunications of Algeria (ARPT) and the Telecommunications Regulatory Authority (TRA) Oman. The MoU was signed at the Diplomatic Institute of the Ministry of Foreign Affairs by Dr. Hamed bin Salim al Rawahy, chief executive, TRA Oman and Dr. Mohamed Toufik Bessai, CEO, ARPT, stated a press release. The MoU is expected to boost exchange of information and expertise in the field of telecommunications and postal sector in future. It will also strengthen cooperation in research and consultancy studies and exchange of information in relation to the approved technical standards. Possibilities of exchanging expertise in frequency spectrum management, allocation of bands, mechanisms of network evolution, interconnection and regulatory measures are also addressed by the MoU.

(November 22, 2015) muscatdaily.com

Over 30 Algerian ICT companies have formed a consortium to build a technology cluster in Sidi-Abdellah. The consortium signed an agreement with the national agency for business parks. The businesses said there was a need to open a cluster to help develop the country's digital economy, according to the president of the ICT industry association, adding that by joining forces the companies can increase their scope. Around half of the 32 partners planning to open a presence at the Sidi-Abdellah Cyberpark 30 km southwest of Algiers, are state-owned companies such as Algerie Telecom and Mobilis, as well as private groups and internet start-ups, software developers, electronics manufacturing and satellite navigation. The ICT cluster follows on earlier initiatives for drinks, dates, precision mechanics and plastics.

(November 19, 2015) Agence Ecofin

Bahrain



Chairman: Dr. Mohammed Al Amer
[Telecommunication Regulatory Authority (TRA)]

Telecommunications Regulatory Authority has won the CommsMea 'Regulator of the Year' award at the 10th edition of the

annual CommsMea Awards recently. The award, won by TRA Bahrain for the fifth time, comes in acknowledgement of the regulators accomplishments in cultivating an environment by which the telecommunications sector across Bahrain has been able to flourish, said a statement. The regulator's award for best regulator comes as a hard earned win among prominent rivals in the region such as the TRA's of the UAE and Qatar's Supreme Council of Information and Communication Technology. Mohamed Bubashait, TRA's general director, said: "Winning 'Regulator of the Year' for the fifth time a great honor, and proof of the unified vision and strategy exerted by our kingdom's leadership. This award only invigorates our steadfast commitment to the kingdom and its goals in ICT." Sheikh Mohammed bin Salman Al Khalifa, TRA's human resources manager, said that this achievement reflects the TRA's ongoing efforts in developing the ICT sector in Bahrain in line with the directives of the leadership. This further ensures the continuity of the high quality of services offered and fosters sustainable competition within the market, he added.

(November 16, 2015) TradeArabia News Service

The Telecommunications Regulatory Authority's (TRA) Board of Directors held their third meeting this year. During the meeting, the Board members discussed various issues relating to the Kingdom's ICT sector, including ways to implement the directives of Prince Salman bin Hamad Al Khalifa, Crown Prince, Deputy Supreme Commander and First Deputy Prime Minister. The directives included the need to complete and implement the Kingdom's fourth National ICT Sector Development Plan in cooperation with the Ministry of Transportation and Telecommunications. The Board members reiterated His Royal Highness' emphasis on the pioneering role Bahrain has played in developing its telecommunications sector over the past decade, and the need to prioritize innovative ICT policies that foster sustainable competition within the market. The Board members also noted that the Kingdom's efforts in this regard were recognized recently by the International Telecommunications Union, which presented the Award for Sustainable Development in ICT to the Prime Minister, Prince Khalifa bin Salman Al Khalifa. The Board expressed appreciation for the Crown Prince's support for ICT development in the Kingdom, and noted the importance of completing the National ICT Sector Development Plan as quickly as possible.

(November 10, 2015) tra.org.bh

keep abreast with the changing scenario in the emerging sector, officials said. To have more modifications of the draft policy, the telecommunication division held several meetings with stakeholders, regulatory body and the industry people. The National Telecommunications Policy was formulated in 1998 and it had been updated twice in assistance with World Bank and International Telecommunication Union (ITU). The revisions took place first in 2010 and then in 2012. In 2010, the policy was revised with the assistance of World Bank at a cost of TK39 lakh. Later, ITU helped to bring an amendment at free of cost. It was posted on the website of the division to take public views and feedback. But the division said it didn't get "satisfactory feedback" from the public. According to the latest statistics, in July 2014 the total data consumption by the country's subscribers was 2,500 terabyte while it rose to 4,710 terabyte in January 2015. Considering the statistics, the division will include per capita data use in the latest telecommunication policy, said an official. He said the policy would be based on five principles including open and competitive market, universal access, effective governance and forward looking. "We have reviewed telecommunication policies in Pakistan, Sri Lanka and Netherlands. Finally, taking our geographical position and culture into account, we have included different issues," the official said. The division's joint secretary Husnul Mahmud said: "With the slogan 'Telephone for All,' our mission is to ensure an integrated telecommunications network and services for all individuals, households and businesses in Bangladesh." "Then we can develop an institutional framework to support research and development works," he said. The government for the first time has included short-term, mid-term and long-term industry targets in the country's telecom policy. A total of 1,200 union parishads will be connected through optical fiber cable by 2018 under the short-term target while 100% telecom density will be achieved by 2021 under the mid-term target. Around 60% population of the country will be brought under the broadband services by the year 2025 under the long-term goal. According to the draft policy, to protect customer rights, the launch of mobile number portability system has also been cited in the policy. The draft policy stresses that the state-run mobile operator Teletalk and Bangladesh Telecommunication Corporation Ltd (BTCL) will increase its capacities to compete with other business entities in the market. It also says the service providers must comply with performance standards and quality of service parameters. (November 3, 2015) dhakatribune.com

Bangladesh



Chairman: Sunil Kanti Bose
[Bangladesh Telecommunication Regulatory Commission (BTRC)]

The telecommunication division is going to place the draft of National Telecommunication Policy 2015 before the cabinet this month for its approval. The draft, which will be placed on November 16, has been prepared on the basis of 10-year business forecast of the telecommunication industry and to ensure a telecom-friendly environment in Bangladesh. Before that an inter-ministerial meeting will be held at the secretariat on November 11. The policy will be for a 10-year period, but there will be a scope for revision from time to time to

Iran



Chairman: Dr. Mohammad Ali Forghani
[Communication Regulatory Authority (CRA)]

State-owned monopoly fixed line provider Telecom Egypt (TE) is reportedly seeking to resolve longstanding disputes with the nation's mobile network operators with a view to paving the way for its own entry into the wireless sector. According to Reuters, which cites comments made by TE's new chief executive Osama Yassin, the company is, however, keen to retain its 45% stake in one of Egypt's existing cellcos, Vodafone Egypt, despite the government having previously said this would be a requirement prior to the fixed line incumbent being licensed for mobile services. On its plans to make a foray

into the cellular sector, Mr. Yassin said: 'We think it is our right to have a mobile license with the 4G frequency ... and we hope that we can preserve in one way or another our 45% stake in Vodafone.' Meanwhile, with regards to settling existing issues, the new CEO added: 'I came and took an endorsement from the board to end ongoing problems with internet and mobile companies, so this is a new direction that should improve the performance of the telecom market generally.' To that end, he suggested that a dispute over interconnection fees could soon be settled, following years of litigation over the matter. In addition, TE is reportedly considering possible price reductions for the rental of its fixed infrastructure to ISPs before the end of this year. (November 4, 2015) telegeography.com

Iraq



CEO: Dr. Burhan Shawi
[Communication & Media Commission (CMC)]

The Iraqi government is selling off a fourth mobile license and has called on would-be licensees to submit expressions of interest by the end of next week. The country's Communications and Media Commission (CMC) has invited international mobile operators to express their interest in the award by midday on November 20. The available license will be technology-neutral and have 15-year duration. The CMC said it will award the license via a competitive allocation process, but did not share further details at this stage. Companies that meet its prequalification criteria will be provided with further information on the bidding process, the CMC said. The CMC said it has a range of spectrum, but did not specify whether this will all be allocated to the new licensee. It has 2x7.5 MHz of 900-MHz spectrum, 2x22.5 MHz at 1800 MHz, 2x10 MHz at 1900 MHz/2.1 GHz, and 20 MHz of unpaired spectrum in the 2.6 GHz band. As it stands, Iraq is served by three main mobile network operators, which together had 31.2 million customers in the first quarter of this year, according to third-party statistics provided by the CMC. The CMC puts mobile penetration at 95.7% as of 2014. There is "considerable growth potential" in Iraq, the CMC said, noting that mobile penetration is "relatively low compared to regional peers, most of which are well in excess of 100% penetration, driven by growth in [the] multi-SIM phenomenon." It expects data usage to take off as the operators roll out 3G services, having received licenses a year ago. Market leader Zain launched 3G services this year. According to the CMC's data, its overall customer base stood at 13.6 million in Q1, putting it ahead of Asiacell with 11.2 million. Korek is somewhat smaller with 6.4 million customers.

(November 11, 2015) totaltele.com

Kuwait



Chairman and CEO: Salim Alozainah
[Communication and Information Technology Regulatory Authority (CITRA)]

Saudi Telecom Company (STC) is seeking approval to buy the 74 per cent of Viva, Kuwait's second largest operator, it does not already own. STC submitted a voluntary offer document to Kuwait's Capital Markets

Authority (CMA) for approval. Viva was listed on the country's stock exchange in December 2014. If the CMA gives its go ahead then STC will launch an offer for all the issued shares in Viva it does not already hold. The Saudi operator currently owns a 26 per cent stake in the Kuwaiti operator. STC will announce the details of its offer once it receives CMA approval. The offer will be self-financing from its own sources, it said. Viva, which was established as a joint-stock company in 2008, is the second largest operator in a closely fought mobile market in Kuwait. According to GSMA Intelligence, it overtook rival Ooredoo earlier this year. The market leader is Zain. Viva had 2.4 million mobile connections at the end of the third quarter. Viva reported revenue of KWD 204 million (\$671 million) over the 9 months ending 30 September 2015, a 17 per cent increase compared to the same period in 2014. Over the same period, Viva's net profit increased by 12 per cent to KWD 33 million. (November 19, 2015) mobileworldlive.com

Morocco



Director General: M. Azdine El Moutassir Billah
[Agence Nationale de Reglementation des Telecommunications (ANRT)]

Moroccan telecom regulator National Agency of Telecommunications Regulation (ANRT) has launched a call for license applications for the provision of satellite telecommunications services using GMPSC technologies. The regulator has invited all interested parties to submit their applications by December 3, 2015. In early March 2015 ANRT announced that it would launch three tenders – for trunked radio networks (3RP), GMPSC, and VSAT concessions – on March 16 with a deadline for license bids of May 7. Subsequently, ANRT awarded five new concessions – three 10-year VSAT licenses to Maroc Telecom (IAM), Wana (Inwi) and the Green Development Corporation (SADV); and two 3RP authorizations to SADV and Cires Telecom – on October 22. The ANRT however did not award any licenses for the provision of satellite telecoms services using GMPSC technologies. (November 17, 2015) telegeography.com

Nepal



Chairman: Mr. Digambar Jha
[Nepal Telecommunication Authority (NTR)]

Nepal reached 28.34 million voice telephony subscribers at 17 July, up from 28.10 in mid-June. The country's mobile voice subscriber base amounted to 26.6 million users at 17 July, up from 26.4 million in June, according to data from the Nepal Telecommunications Authority (NTA). The total includes 25.37 million GSM users in July, up from 25.14 million in June, with the remaining 1.28 million using Nepal Telecom's CDMA service, up from 1.27 in June. Nepal telecom led the country's voice telephony services market in July, with a total of 13.12 million subscribers, followed by Ncell with 13 million. Nepal Telecom had 11 million GSM subscribers, and 1.28 million CDMA customers. Nepal had a mobile teledensity of 100.64 percent at mid-July, while fixed teledensity reached 3.19 percent. (November 16, 2015) telecompaper.com

Oman



Executive President: Dr. Hamed Al-Rawahi
[Telecommunication Regulatory Authority (TRA)]

A Memorandum of Understanding (MoU) was signed between the Telecommunications Regulatory Authority (TRA) and the Authority for the Regulation of Post and Telecommunications of Algeria (ARPT) recently. The MoU was signed at the Diplomatic Institute of the Ministry of Foreign Affairs by Dr. Hamed bin Salim al Rawahi, chief executive, TRA and Dr Mohamed Toufik Bessai, CEO, ARPT, stated a press release. The MoU is expected to boost exchange of information and expertise in the field of telecommunications and postal sector in future. It will also strengthen cooperation in research and consultancy studies and exchange of information in relation to the approved technical standards. Possibilities of exchanging expertise in frequency spectrum management, allocation of bands, mechanisms of network evolution, interconnection and regulatory measures are also addressed by the MoU. (November 22, 2015) muscatdaily.com

Oman will be spending OMR 450 million over the next ten years to improve telecommunication services in all governorates. The CEO of the Information Technology Authority (ITA), Salim Sultan Al Ruzaiqi, said at the seventh three-day FTTH (fiber-to-the-home) Council Mena Conference that Oman's digital strategy focuses on the development of social information, e-government, economy and infrastructure as well as the continuity of the developments. He said that according to the UN e-government survey for 2014, Oman improved in the global ranking and stands at the 48th place in terms of e-readiness. (November 12, 2015) Times of Oman

Pakistan



Chairman: Dr. Syed Ismail Shah
[Pakistan Telecommunication Authority (PTA)]

While the auction of 3G and 4G licenses in Pakistan was an important step, it was still a small one towards a digital economy and development and well being of citizens through Information and Communication Technologies, said Dr. Ismail Shah, Chairman, Pakistan Telecommunication Authority, during his opening notes at INet Islamabad, a three day conference jointly organized by PTA and ISOC in Islamabad. INet Conference, which is being hosted for the first time in Pakistan, is primarily aiming to bring together regulators, private operators and domain experts from Pakistan and abroad to discuss the opportunities of digitalization of Pakistan through ICT sector. Dr. Shah during his keynotes candidly admitted that there is still a lot to be done in ICT sector of Pakistan but with introduction of 3G and 4G services, broadband penetration jumped from below 2 percent, just a year and half ago, to over 10 percent to date. He said that this uptake in broadband usage, with-in just 18 months, can be considered as a good starting point to reap the added benefits that can be achieved through ICT sector in almost any sector. Dr. Shah revealed that 3G services are currently available in over 250 cities across Pakistan where previously there was no or little internet access. Chairman PTA said that

with broadband internet now available to over 20 million users, Pakistan is all set to take on development projects in e-education, e-agriculture, e-health, digital economy and general well being of citizens. Dr. Ismail Shah emphasized that government should realize that ICT sector is a driver for development of all segments and functions and hence it needs proper attention. He said that with ample broadband access in all major parts of the country, government can and should employ ICT for the development of e-education, e-health and various other govt. backed projects. Chairman PTA also urged telecom operators to think out of the box and to offer innovative new services to masses, that will not only help them increase their narrowing margins but will bring along civil and social benefits to the society. Chairman said that PTA, as a regulator, is doing its best to bring regulatory changes to meet changing market demands. He said that PTA alone can't achieve anything and the same is true for the industry. He said that it's the need of the time for all stake holders, including Ministry of IT and Telecom, Ministry of Finance, Ministry of Interior, Education Ministry, Water and Power Ministry, private sector, academia and civil society to work together for the digitalization of the country with an aim to better the lives of the citizens. (November 17, 2015) ProPakistani

Pakistan Telecommunication Authority has contracted "InterConnect Communication", a consultancy firm based out of UK, for provision of consultancy services for upcoming 3G/4G auction in the country, we have learned from sources that are aware of the development. PTA, on directions of Ishaq Dar, Finance Minister of Pakistan, is aiming to conduct another round of 3G/4G auction in Pakistan with-in next few months. Pakistan Telecommunication Authority, in order to speed up the process, recently finalized the consultancy firm for assistance in the auction of 3G and 4G spectrum. A PTA spokesperson confirmed ProPakistani that an agreement with InterConnect Communication — for provision of consultancy services for auction of 3G and 4G spectrum — has been signed. It may be recalled that Pakistan sold four 3G and one 4G licenses in April 2014 for a total value of USD 1.182 Billion, while one block in 1800MHz and another in 850MHz was not sold then, which PTA is aiming to sell through an auction in next few months. Our sources tell that InterConnect Communication has already begun its working to study the dynamics and details of Pakistani market. After this initial homework, consultants will assist PTA in preparing IM for the spectrum auction. It won't be out of place to mention that any future 3G and 4G auction in Pakistan will be hugely challenged by variety of taxes on telecom sector due to which mobile phones companies are reluctant to invest any further in their businesses in general and in spectrum in specific. In fact mobile phone companies have already signaled to boycott upcoming 3G / 4G auction after recent taxes on data and other telecom services. Telcos are also concerned about government's non-serious and stubborn behavior towards telecom sector. With decreasing revenues of telecom sector, all thanks to inapt government policies, it will be interesting to see PTA will be able to generate any interest in local operators (let alone any new foreign operator) for the planned 3G and 4G auction. (November 11, 2015) ProPakistani

Palestine



Minister of Communications & Information Technology: Dr. Allam Moussa
[Ministry of Communications and Information Technology (MCIT)]

An agreement which paves the way for the long-awaited introduction of 3G services in the Palestinian Territory has been struck. Israel and the Palestinian Authority have inked a deal to allow the operation of UMTS infrastructure in Gaza and the West Bank, with the former saying that the decision had been made following a security examination. Specifically, the agreement between the two sides 'will enable the companies benefiting from the service to begin coordination with the Palestinian ministry of telecommunication to begin the implementation of the agreement on the ground', said Hussein Al-Sheikh, Palestinian Minister of Civil Affairs. Under interim peace accords, Israel is responsible for allocating radio frequencies in the West Bank, where the Palestinian Authority exercises limited self-rule. Currently the two Palestinian mobile operators – Paltel subsidiary Palcel (Jawwal) and Wataniya Mobile – are still using 2G technology, and both are keen to upgrade to 3G to meet surging demand for data bandwidth for social media applications. (November 20, 2015) reuters.com

Qatar



President: Mr. Mohammed bin Ali Al Mannai
[Communications Regulatory Authority (CRA)]

The Communications Regulatory Authority, under the leadership of Mohammed Ali Al-Mannai, is participating in the International Telecommunication Union (ITU)'s World Radio Communication Conference (WRC) starting today in Geneva. WRC, organized every four years to review, and revise Radio Regulations, will be in session until November 27. Al-Mannai, President of CRA, is a key part of the Qatar delegation, headed by H.E. Dr. Hessa Al-Jaber, Minister of Information and Communications Technology. The Qatari delegation also includes representatives from the Ministry of Interior, the Qatari Armed Forces, Qatar Media Corporation and Qatar Satellite Company (Es'hailSat) as well as a delegation from the Permanent Mission of the State of Qatar to the United Nations in Geneva. Besides radio regulations, WRC also reviews, and revises the international treaty governing the use of the radio-frequency spectrum and the geostationary-satellite and non-geostationary-satellite orbits. Revisions are made on the basis of an agenda determined by the ITU Council, which takes into account recommendations made by previous world radiocommunication conferences. Under the terms of the ITU Constitution, a WRC can revise the Radio Regulations and any associated frequency assignment and allotment plans; address any radiocommunication matter of worldwide character; instruct the Radio Regulations Board and the Radiocommunication Bureau, and review their activities; determine questions for study by the Radiocommunication Assembly and its Study Groups in preparation for future Radiocommunication Conferences. (November 2, 2015) cra.gov.qa

Saudi Arabia



Acting Governor: Eng. Habeeb K. Alshankiti
[Communication & Information Technology Commission (CITC)]

Saudi Arabia's IT services market is predicted to grow by 12.5% year-on-year, to reach overall value of \$3.09 billion this year, according to IDC. The analyst company said that growth is being driven by large-scale infrastructure expansion and modernization projects in the government, finance, healthcare, education, and transportation verticals. "In order to increase their business reach, better understand their customers, and enable effective decision making, private sector organizations are investing in business intelligence and analytics solutions, as well as in mobile technologies," said Uzair Mujtaba, a senior research analyst for IT services and software at IDC Saudi Arabia. "The government, meanwhile, is investing heavily in digitizing its citizen centric services. The Yesser e-government program is supporting this initiative by consolidating IT infrastructure for government entities and ministries in order to centralize the provision of services to its internal clients. "IT security continues to be a leading concern among business leaders, and we are seeing considerable investments being made in advanced security solutions," said Mujtaba. "Organizations in the banking and finance verticals are investing in data centre expansion and new build outs, with a particular emphasis on integrating their business continuity and disaster recovery capabilities with their infrastructure to ensure maximum availability of services to customers. The telecom vertical is also undergoing major transformation as operators Endeavour to fortify their services portfolios and become end-to-end IT services providers." The Saudi service market is dominated by local players, IDC said, with locally-based organizations making up half of the top ten service providers. Existing multinational providers are gradually increasing their market shares, giving rise to fierce competition and greater emphasis on service capability enhancements. In order to tackle the challenges stemming from various macroeconomic factors, services providers are continuously working towards the facilitation of lean organization structures. Due to these developments, managed and outsourced services are expected to gain significant momentum in the market as they increasingly become viewed as a more efficient and cost-effective way of conducting business. (November 16, 2015) itp.net

Telecom companies operating in Saudi Arabia intend to form an alliance to prevent people from using free Internet telephone services as part of their joint efforts to increase their annual revenue from phone calls. "Major telecom companies in the Kingdom plan to stop net-based telephone services within a few weeks to increase their revenue," the newspaper said quoting informed sources. The sources said companies could close the net-based services without informing beneficiaries and without giving them any warning. Lawyer Dr. Ibrahim Zamzami opposed the move and said telecom companies must meet the hopes and aspirations of their customers. "The international telecom market is now open and telecom companies will not be able to make billions in profit through monopoly. They have to come up with

innovative systems and practices to excel," he told the Arabic daily. "Telecom companies should take into consideration the financial capabilities of their customers while setting out marketing policies to win more clients. This should be an important marketing strategy for companies to make greater profits," Zamzami said. He said telecom companies would lose their customers if they continue to impose their monopolistic policies and measures, especially because of speedy development in information technology. They will not have any control on international telecommunication systems. At present millions of people use various net-based apps to make international calls. About 900 million people use WhatsApp application, 750 million use Messenger, 160 million Tango, and 115 million Line to connect with their families and friends around the world.

(November 12, 2015) Al-Watan Arabic Daily

Sri Lanka



Director General: Mr. P.B. Abeykoon

[Telecommunication Regulatory Commission (TRC)]

Sri Lanka Telecom released its company and group financial performance, for the 3rd quarter 2015. The group comprises of Sri Lanka Telecom and its eight subsidiaries including mobile arm Mobitel (Pvt) Ltd., (Mobitel). The group reported Rs.50.8 billion revenue during the nine months ending in September 2015 with 6% year on year growth with both fixed and mobile telephone segments contributing to the success. The group has reported a healthy EBITDA margin of 32.3% during the period under review against the 30.9% of the same period of last year due to maintenance of higher revenue growth than the rate of operating cost escalation. The operating cost of the group was reported at Rs. 34.4 billion with a year on year growth of 4%, while the EBITDA grew by 11% to Rs. 16.4 billion during the 1st nine months of 2015, when compared to the same period of the previous year. Depreciation and amortizations remains at the same level of Rs. 9.8 billion, compared to the previous year. Bottom-line of financials of the group was largely negated by provisions for foreign currency translation losses relating to foreign currency denominated borrowing due to the sudden depreciation of the LKR against the USD. Most of the borrowings of the group are dollar denominated as to gain low interest costs. Since, the repayments are going through the internally generated foreign denominated revenues, provisions for translation losses are generally not impacting the group cash-flows. Owing largely to the above mentioned provisions for translations losses, the group profit before tax and profit after tax have dipped by 18% and 19% to Rs. 5.4 billion and Rs. 4.1 billion respectively. Holding Company Sri Lanka Telecom alone has reported Rs. 30.2 billion revenue during the 1st nine months of 2015, with a year on year growth of 5%. Accelerated i-Sri-Lanka program providing high-speed broadband, voice and IPTV Connectivity Island wide, coupled with other large investments in capacity building and introducing new technologies such as LTE and FTTH, have driven the revenue growth. The operating costs of the Company for the 1st nine months of 2015 was managed at an acceptable level of 2% increase year on year while the Company EBITDA by 13% to Rs.8.2 billion. EBITDA margin has improved to 27.3% from 25.3% of

the same period of last year. As explained above the impact of losses from foreign currency translations have largely impacted dipped the bottom lines of the Company financial performance. Accordingly Company Profit Before Tax and Profit After Tax have ended at 27% and 29% during the nine months ending in September 2015, compared to the same period of year before to Rs. 2.2 billion and Rs. 1.4 billion respectively. Group Chief Executive officer Dileepa Wijesundera looking at the group future through present performance stated that the initiatives taken across the group to accelerate the capacity building projects while minimizing the time taken for market offerings will boost the group performance in every aspect. Results for the 1st nine months of 2015 are evident of this phenomenon, he said. (November 14, 2015) colombopage.com

Turkey



Acting Chairman: Dr. Omer Fatih Sayan

[Information & Communication Technologies Authority (BTK)]

Turkey's government has blocked Reddit under its Internet censorship law 5651. Under this law, the country's officials are allowed to ban sites that contain content that is pirated, is pornographic in nature or contains criticism of the Mustafa Ataturk. This is not the first time that Turkey has banned a popular website or Internet service. Turkey's government officials had blocked YouTube for a brief period in April this year. Popular URL shortening service bitly was also blocked during this period. Users were redirected to a page stating in Turkish "this internet site (bit.ly) is placed under administrative measures by the Telecommunication Authority." While users can avoid this blockage by switching their DNS settings, there is no word on when the ban will be lifted. No explicit reason has been given for the ban on Reddit, but given the site's heated discussion forums and its various threads which have NFSW content, the ban should not come as surprise in light of Turkey's censorship laws.

(November 16, 2015) indianexpress.com

Tunisia



President: Mr. Hassoumi Zitoune

[National Telecommunication Commission (INTT)]

Tunisie Telecom has demonstrated 4G LTE technology at the 'ICT4All' conference in Hammamet. According to the news site the telco achieved downlink transmission speeds of up to 135.8Mbps, in association with vendor partner Alcatel-Lucent. The trial was carried out in the presence of Prime Minister Habib Essid, the website adds. While the spectrum used in the latest test has not been disclosed, last month it was reported that Tunisie Telecom had tested 4G carrier aggregation (CA) utilizing the 800MHz and 1800MHz bands. The earlier trial was carried out in conjunction with Ericsson and Qualcomm. Earlier this month Tunisia's Ministry of Communications Technologies and the Digital Economy (Ministere des Technologies de la Communication et de l'Economie Numerique, Mincom) opened a tender for the award of three concessions to install and operate 4G networks. Bidding is due to start on 1 February 2016, and Mincom expects to complete the license allocation process in late March 2016. (November 23, 2015) Agence Ecofin

At the occasion of the visit by the President of Tunisia, Beji Caid Essebsi, to Ericsson's headquarters in Sweden, announcements were made to support the acceleration of the Tunisia's digital agenda. King Carl XVI Gustav of Sweden was also part of the delegation visiting Ericsson. Hans Vestberg, President and CEO, Ericsson, says: "Leveraging ICT, governments can build cities with smart transport systems and optimized energy consumption, as well as transforming health care and education. ICT will play an important role in sustainable and inclusive development in every part of business and society. I believe that taking a holistic, proactive and collaborative approach is how we ensure that we have a future where cities and countries develop in a sustainable way". The transformative force of Information and Communications Technology (ICT) on the eco-system of industries, government bodies and public services, is seen as a driver of sustainable growth in Tunisia. Ericsson and the Ministry of Communication Technologies and Digital Economy in Tunisia signed a memorandum of understanding (MoU) outlining several initiatives to spur further Tunisian ICT innovation. Vestberg says: "Tunisia is one of many countries where Ericsson has a long-standing presence. We have been part of the country's communications technology evolution since 1964, and with this initiative we further solidify our commitment to the future ICT development of Tunisia." The Ministry of Communication Technologies and Digital Economy will host application and services developers and start-ups in an innovation center called El Ghazala Technopark, in Tunis. Ericsson will provide them access to its IoT-platform, in an "as-a-Service" model. In addition, Ericsson Tunisia will place IoT experts as facilitators of innovation in the El Ghazala Technopark. During the visit, Ericsson also confirmed the opening of an Ericsson service-center in the Elghazala Technopark. The center will be a hub for Ericsson's services organization supporting customers in the Mediterranean region and Africa. These initiatives are in line with the National Strategic Plan Digital Tunisia 2018, which focuses on enabling digital technology projects with the potential to support Tunisia's economic development. The Plan endorses the private sector's contribution to developing ICT in Tunisia, and defines ICT as a transformation tool to improve industry competitiveness and public service effectiveness. The telecommunications market in Tunisia will generate estimated revenues of USD 1.5 billion in 2015, a 4.1 percent increase in local currency terms from 2014. Mobile data growth, driven by social networks, OTT communication and video, is a key factor in this increase. More than 40 percent of Tunisian mobile subscribers use 3G technologies, a figure projected to rise to around 85 percent by 2020. Commercial LTE launches are expected to begin in 2016. (November 9, 2015) africabusinesscommunities.com

Tunisia's Ministry of Communications Technologies and the Digital Economy (Mincom) have opened a tender for the award of three concessions to install and operate 4G networks. In order to be eligible to submit a bid, prospective participants must be active telecom providers (in Tunisia or elsewhere) with their own infrastructure and have been operational for at least five years. Operators have the option to bid individually or as part of a consortium with other investors. Interested parties must pay a non-refundable registration fee of either TND5,000 (US\$2,508) or EUR2,500 (US\$2,747) and sign a confidentiality agreement in order to

access bidding documents. Registered bidders will then have until November 24, 2015 to submit any queries regarding the process, with responses due from Mincom by December 4, and bidding is due to start on 1 February 2016. Mincom expects to complete the allocation process in late March 2016. Details of the spectrum bands to be made available for the three licenses were not made public, although the National Telecommunications Authority (Instance Nationale des Telecommunications, INT) and the National Frequencies Agency (Agence Nationale Frequences, ANF) had previously identified the following bands as suitable for 4G: 450MHz, 800MHz, 1700MHz/2100MHz, 1800MHz, 2300MHz, 2500MHz and 3400MHz-3600MHz. Further, Mincom stated in September this year that an obligation to roll out coverage to remote areas would also be included in the 4G concessions.

(November 4, 2015) telegeography.com



REGULATORY ACTIVITIES BEYOND THE SAMENA REGION

REGULATORY UPDATES

Argentina



The Federal Administrative has reportedly intervened in the ongoing dispute between media conglomerate Grupo Clarin and the Federal ICT Authority (Autoridad Federal de Tecnologías de la Información y las Comunicaciones, AFTIC), regarding the former's purchase of a 49% stake in Nextel Argentina from US-based NII Holdings. In September this year, AFTIC formally rejected the sale, claiming that the parties had not sought the necessary regulatory approvals prior to announcing the deal. AFTIC claimed that the US\$178 million transaction violated Article 13 of Law No. 27,078, and warned that if Nextel pursued the deal it could be stripped of its operating licences. The move was interpreted by some industry watchers as politically motivated, given the company's previous issues with the government. Specifically, Grupo Clarin has been embroiled in a series of disputes with outgoing President Cristina Fernandez de Kirchner of the FPV, who claims that the firm is biased in its coverage of the government. The battle has been ongoing since 2008, when the media group criticized Fernandez's handling of farmer protests soon after she succeeded her late husband as president. According to local news site Cronista, last week Judge Pablo Cayssials imposed a six-month injunction blocking AFTIC's

decision, meaning that the case will now be reviewed in 2016. Crucially, the final decision regarding the merger will be made by new government personnel, following the recent presidential election. Mauricio Macri of the Cambiemos party was appointed President on 23 November, ending the twelve-year rule of the Peronist Front for Victory (FPV) party.

(November 24, 2015) telegeography.com

Austria



A decision paper detailing the Australian Communications and Media Authority's (ACMA's) long-term strategy for the 803MHz-960MHz band has been published, in which the regulator has set out a range of planned reforms to the band, as well as a detailed timetable to 2024 for their implementation. One key element of the reforms is the progressive clearance of some services over the next decade to allow for allocation of the 850MHz 'expansion' band for mobile broadband services. The new allocation will also make use of a vacant piece of former analogue television spectrum (803MHz-820MHz) that was unable to be utilized as part of the 700MHz 'digital dividend'. Decisions on the timing and method of allocation of the 850MHz expansion band are yet to be made. Alongside the country's major mobile broadband service providers, the

ACMA noted that there is an 'established community of users' in the 803MHz-960MHz band which provide trunked land mobile services, fixed links, sound outside broadcast and studio-to-transmitter links, while there are also myriad consumer devices that operate under the Low Interference Potential Devices (LIPD) class license in the 915MHz-928MHz band. As such, reforms will have implications for some of those services. Commenting on the development, ACMA chairman Chris Chapman said: 'Further reform of the 900MHz GSM band to optimize it for mobile broadband services will continue to be a key work item for the ACMA and will be pursued separately from the broader implementation plan set out in this paper ... In a sense, we're fortunate these issues are largely 'self-contained' to the existing three licensees (Telstra, Optus and VHA). This makes it possible for the ACMA to deal with these issues in isolation to the implementation of those broader reforms to the 803MHz-960MHz band detailed in the paper. We'll be consulting directly with the relevant industry stakeholders to bring about the desired changes to the 900MHz GSM band.'

(November 20, 2015) telegeography.com

A draft decision proposing a Superfast Broadband Access Service (SBAS) declaration has been published by the Australian Competition and Consumer Commission (ACCC). The regulator noted that while some superfast broadband services are already declared, some are subject to carrier license conditions, to ministerial exemptions with conditions, or remain unregulated. The ACCC has proposed that telecommunications providers be allowed access to services with a downstream data rate of normally more than 25Mbps on all fixed line networks, though access will not be required where the network operator is already facing competition from alternative fixed network providers. Commenting on the matter, ACCC chairman Rod Sims noted: 'Declaring an SBAS will go some way to simplifying and clarifying the regulations that apply in this area, and give access seekers certainty about gaining wholesale access to services on these networks ... The ACCC considers declaration of an SBAS will promote the long-term interests of end-users because it is likely to promote competition between telecommunications providers supplying services to end-users.' Submissions on the decision have been invited by the regulator, which is specifically seeking comments on the likely costs of complying with the declaration and whether it would be appropriate to exempt smaller providers on this basis. The closing date for submissions is 4 December 2015.

(November 6, 2015) telegeography.com

The Australian Competition and Consumer Commission (ACCC) has said it will not oppose Vocus Communication Limited's planned acquisition of M2 Group Limited. In confirming its decision, the ACCC claimed that the two companies have 'limited overlaps in the supply of retail and wholesale fixed broadband services; the supply of retail and wholesale fixed voice services; the acquisition of transmission services and the supply of data centre services'. Further, it argued that in those markets where Vocus and M2 do overlap, they tend to focus on different customer segments, with M2 mainly focused on residential and small business customers and Vocus mainly focused on large enterprise and government customers. As such, the regulator noted that the proposed acquisition will not significantly increase vertical integration between wholesale and retail telecommunications services providers, with ACCC chairman Rod Sims commenting: 'This [is] primarily

a merger between two complementary businesses. Significantly, the merged firm will also face significant competition from Optus, Telstra and TPG. This merger consolidates the fourth player in the market.'

(November 5, 2015) telegeography.com

Botswana



The government of Botswana expects to launch an initial public offer (IPO) for shares in national fixed line operator Botswana Telecommunications

Corporation Limited (BTCL) by end-December. The much-delayed privatization will see the state selling off 49% of the telco, with a 44% stake available to the general public and 5% reserved for BTCL employees. Once the IPO is announced, prospective purchasers will be given around eight weeks to register their interest, the government says. Having initially been planned for 2011, the sale first ran into problems in 2012, before an IPO was cancelled in August 2014. The offer was then rescheduled for November that year, but problems with the sale of shares to employees caused yet another postponement to the end of the following month, but this date too was missed. Earlier this year Botswana's Minister of Transport and Communications, Tshenolo Mabeo, said the delays could also be attributed to problems with the transfer of infrastructure from BTCL to national networks firm BoFiNet. Mabeo said that the original 'Possession and Use' agreement, which was due to be signed in November 2014 ahead of the planned IPO the following month, was not 'fit for purpose'. A new Possession and Use document was eventually signed on 4 March 2015, transferring all BTCL infrastructures to state-owned BoFiNet, which was established in 2012 to take over the running of the country's telecoms networks, with BTCL acting purely as a service retailer.

(November 10, 2015) totaltele.com

Brazil



Brazil's Anatel late set December 17 as the start date of its latest spectrum auction, a sale it hopes will attract smaller players.

The telco regulator is auctioning off frequencies in the 1800 MHz, 1900 MHz and 2.5 GHz bands, and aims to raise a minimum of 1.62 billion reals (€398.15 million). The spectrum can be used for mobile services, fixed wireless broadband, or even private communications such as those used by taxi companies, for example. The spectrum is divided into three separate batches. Batch A consists of one block of 2x15 MHz of 1800-MHz spectrum priced at BRL449.9 million (€110.8 million), and one block of 2x2.5 MHz of 1800-MHz spectrum priced at BRL37.8 million. It also includes two further 2x5 MHz blocks of 1800-MHz spectrum, one with a reserve of BRL59,125 and the other with a reserve of BRL198.8 million. Batch B is comprised of 2x10 MHz of 2.5-GHz spectrum, for which Anatel has set a minimum price of BRL283.9 million. Finally, batch C consists of two 5 MHz chunks of unpaired 1900-MHz spectrum, one priced at BRL12.8 million, the other BRL12.9 million. Lot C also includes two blocks of unpaired 2.5-GHz spectrum, one 15 MHz chunk with a reserve of BRL35.2 million and one 35 MHz chunk with a reserve of BRL585.9 million. "The objective is to encourage the participation of small and medium-sized service providers, or even people who do not work in the telecommunications industry," Anatel said, in a statement. With that in mind, the spectrum has been carved up into 9,000 lots, each one covering an individual municipality. The majority of

these lots carry an average starting price of less than BRL10,000 (approximately €2,500). In addition, winning bidders will have the option to pay for the spectrum in 10 installments, and will have the option to defer payment for 36 months. Prospective bidders are required to express their interest in participating by December 10. (November 10, 2015) totaltele.com

Bulgaria



Bulgaria's third largest operator Vivacom has reportedly been sold in an auction for approximately €730 million, including €400 million debt, to local businessman Spas Roussev. The €330 million winning bid was confirmed by Russian investment bank VTB Capital late last week, which launched the process, and an official announcement is expected once a share-purchase agreement is signed. Vivacom's sale comes after the collapse of Bulgaria's fourth largest lender Corporate Commercial Bank (Corpbank), of which majority shareholder Tsvetan Vassilev also owned an 80 per cent stake in the operator through his Bromak Telecom Invest Company, as well as a consortium arrangement with VTB Capital. Winning bidder Roussev, formerly a real estate investor with experience in the telecoms sector, reportedly beat off competition from Greek-based Olympia Group, which was bidding in combination with hedge fund Third Point. The deal, which will require approval from both Bulgarian and EU regulators, is also set to be contested by Russian businessmen Dimitry Kosarev. Kosarev claims to already own Vassilev's stake in Vivacom, and will dispute the results of the auction legally, according to Reuters. Vivacom has more than 3.1 million connections, according to GSMA Intelligence. (November 23, 2015) reuters.com

Three potential buyers are said to have placed bids for Bulgarian telco Vivacom (registered as Bulgarian Telecommunications Company [BTC]), following the launch of the sale process of the operator by VTB Capital – the investment-banking arm of Russia's VTB – last month, domestic news source Capital reports. The three candidates were revealed as Greece's Olympia Group (backed by US-based hedge fund Third Point); Marc Schneider (co-founder of European cable group UPC, backed by US-based private fund CVC); and Spas Roussev (backed by VTB Capital). The auction will reportedly be held next week, with the minimum price at the auction to be set equal to the highest of the three received bids.

VTB Capital was able to launch the sale process as it acted as a facility and security agent for a EUR150 million (USD165.6 million) bridge financing loan given to InterV Investment, a Luxembourg-based indirect holding company of Vivacom. The loan was secured via a share pledge of 100% of InterV shares, which were all transferred to VTB Capital after InterV defaulted on its loan repayments in May 2015. VTB Capital AD's CEO Milen Veltchev said: 'We hope to see this process resolved swiftly ... We are confident in recovering the amount owed. Vivacom remains a robust business with solid financials and healthy balance sheet.' As of June 2015, Vivacom was wholly-owned by Viva Telecom Bulgaria, itself a subsidiary of Luxembourg-based V2 Investment via holding company InterV Investment. V2 Investment meanwhile is wholly-owned by V Telecom Investment, with its main shareholders listed as follows: LIC Telecommunications (previously known as SHCO 79,

43.3%), Crusher Investment (33.3%) and former creditors of the telecom (23.43%). (November 13, 2015) telegeography.com

Cambodia



Cambodian ISPs and VoIP providers will be required to submit business performance reports by the end of the month or face cancellation of their operating licenses. The Telecom Regulator of Cambodia (TRC) has called on 34 providers to submit their reports to ensure they are in compliance with their license agreements, the Khmer Times reported. An investigation by the regulator has determined that some companies are not fully compliant with their license terms, the report states. Inactive licenses are expected to be cancelled by the regulator to help bring greater clarity to the telecom sector. Some companies have already submitted their reports and therefore have been excluded from the demand. Companies that fail to submit reports by the end of September will have their licenses cancelled, as part of a condition in the licensing requiring the licensee to commence operation within a year of signing the agreement. (November 23, 2015) telecomasia.net

The Telecommunication Regulator of Cambodia (TRC) has called on 34 local VoIP operators and ISPs to submit their business performance reports by the end of this month, to ensure that they are in compliance with their licensing agreements. Officials have informed the Khmer Times that the move is a prelude to a widespread cull of inactive licensees, which it hopes will boost confidence among existing operators intending to expand. Im Vutha, Director of Regulation and Dispute at the TRC, commented: 'First, we want to ensure governance over licensing, and that the licensee is implementing its business in accordance with the terms and conditions of their license. Second, we want to open the room for new investors into this sector. Third, [we want] to follow up on the license conditions according to the TRC's roles and function'. A total of 34 companies – holding 42 licenses – have been ordered to file the relevant documentation, including the likes of MobiCam Online, Garuda Net, EmCom Technologies, Cambodia Internet Corporation and Genusys Cambodia. (November 20, 2015) telegeography.com

China



Minister of Industry and Information Technology Miao Wei has described China's telecoms market as 'unbalanced', although measures implemented over the last two years to increase competition are beginning to take effect, the official added. Responding to queries regarding how the ministry intends to meet government targets of lowering prices and improving data transfer rates for fixed and mobile connections, C114 quotes Mr Wei as saying that: 'To solve the problem we should further encourage competition, which is the most effective way to make enterprises improve their services... We are trying hard to encourage the three major operators to establish a relatively balanced competitive landscape, which is currently unbalanced.' The official noted that steps taken by the Ministry of Industry and Information Technology (MIIT) over the last two years, such as the licensing of 42 MVNOs have begun to have a 'preliminary' effect on the market. (November 10, 2015) telegeography.com

Cote d'Ivoire



The Regulatory Authority for Telecommunications in Cote d'Ivoire (ARTCI) has reportedly raised the mobile license renewal fees due to be paid by the country's operators to XOF100 billion (US\$162.5 million). MTN and Moov were informed of the decision by ICT minister Bruno Nabane Kone, with the regulator also opting to cut the duration of the concessions, from 20 years to 15. The news site claims that all three cellcos have voiced their disapproval at the license fee hike, arguing that they are already unfairly burdened given the investment they must make to improve coverage and quality of service (QoS). By comparison, the original 20-year concessions were priced at XOF40 billion. The respective concessions held by Orange and MTN are due to expire in 2016. Orange launched in October 1996 under the name Societe Ivoirienne de Mobiles (SIM), which traded as Ivoiris, while MTN Cote d'Ivoire was established in 1996 as Loteny Telecom – a partnership between Access Telecom and Atlantique Telecom – and launched GSM services in October that year under the brand name 'Telecel'. Moov, meanwhile, has a full ten years left on its existing license, having entered the market in July 2006. (November 18, 2015) Agence Ecofin

Croatia



The Croatian Regulatory Authority for Network Industries (HAKOM) has received a bid of HRK141.4 million (US\$20.9 million) for remaining available spectrum in the 1800MHz band from the country's number two mobile operator, Telekom Austria subsidiary VIPnet. The two blocks on offer include 15.6MHz of frequencies, one of 2x3MHz which attracted a bid of HRK55.2 million, and one of 2x4.8MHz for which VIPnet offered HRK86.2 million. The spectrum is technology neutral, HAKOM says. The regulator will now verify VIPnet's application for the frequencies and expects to award the spectrum later this month. Separately, Croatian ISP Novi-Net has been awarded wireless broadband spectrum in the 3410MHz-3600MHz band for point-to-multipoint services. The licence is valid for eight years and covers the counties of Medimurje (2x14MHz) and Varazdin (2x21MHz). (November 6, 2015) telegeography.com

ECTEL



Regional regulator Eastern Caribbean Telecommunications Authority (ECTEL) is planning to step up the implementation of number portability (NP) across all ECTEL member states – Grenada, Saint Kitts & Nevis, Saint Vincent & the Grenadines, Saint Lucia and Dominica. The agency has announced that a workshop will take place this week with the aim of launching mobile number portability (MNP) across the member states before the end of 2016, followed by fixed number portability (FNP) soon after. ECTEL notes that the workshop marks the official commencement of work to introduce NP in the region, which is expected to increase competition in the telecoms industry and give more power to consumers of telecommunications services. NP has already been launched in The Bahamas, Cayman Islands, Jamaica, Dominican Republic and Martinique & Guadeloupe, and plans are also underway to launch it in Trinidad & Tobago, Haiti and Barbados. (November 18, 2015) telegeography.com

El Salvador



The anti-trust watchdog of El Salvador, the Superintendency of Competition (Superintendencia de Competencia, SC) has penalised four of the country's mobile operators – Telefonica Moviles El Salvador (Movistar), CTE Telecom Personal (Claro), Digicel El Salvador and Telemovil (Tigo) – for abusing their dominant position by blocking interconnection agreements with rival operators. TeleSemana reports that the regulator issued a fine of USD592,500 each to Movistar, Claro and Digicel, while Tigo got a USD474,400 levy. In addition, the SC ruled that operators must refrain from delaying new interconnection requests and to provide full details of their basic interconnection offers. According to TeleGeography's GlobalComms Database, in early 2014 the SC launched an investigation following a complaint by Platinum Enterprises that it had been denied interconnection for the termination of national and international calls on the networks of five telecoms operators since 2010. The SC said it would investigate whether Tigo, Claro, Digicel and Telefonica Moviles abused their dominant position by creating barriers to entry for new competitors and preventing the expansion of existing competitors. (November 5, 2015) telegeography.com

The Legislative Assembly of El Salvador has approved the introduction of a 5% tax on telecommunications services to finance government security plans, reports La Prensa Grafica. The 'Special Contribution for Citizen Security and Coexistence' will last for a period of ten years and will be added to the invoice of telecoms services (including fixed and mobile telephony, pay-TV and fixed and wireless internet access), as well as the transfer and import of telecoms equipment. The proceeds of the new tax will be used to strengthen the country's security institutions, improve conditions in prisons, and develop reintegration and crime prevention programs.

(November 3, 2015) telegeography.com

European Union



European antitrust regulators has cleared Avago Technologies Ltd's planned \$37 billion takeover of rival chipmaker Broadcom Corp without conditions. Spurred by demand for cheaper chips and new products to power internet-connected gadgets as well as the need to cut costs, the global semiconductor industry has seen a wave of consolidation this year, with the Avago, Broadcom deal among the biggest. The European Commission said it had some initial concerns, but these were dispelled after Avago agreed to let other switch chipmakers have continued access to essential intellectual property on reasonable terms. This meant no concessions were required from Avago despite a preliminary offer, the EU competition authority said, confirming a Reuters story on November 3. "Thanks to very good cooperation with the companies the Commission has been able to approve this multi-billion dollar takeover within a very short space of time while preserving effective competition in this crucial high technology sector," European Competition Commissioner Margrethe Vestager said. Avago serves the wireless and industrial markets while Broadcom's chips are used widely in smartphones made by Apple and Samsung Electronics.

(November 23, 2015) telecom.economicstimes.indiatimes.com

Finland



Government is proposing that the construction of communications and electricity networks should be expedited with an act on the shared construction and use of network infrastructure. The goal is to reduce the construction costs of high-speed broadband networks by increasing the collaboration of various network operators and to promote the development of digital services and functions. The new act on shared construction and use would oblige the communications and electricity network operators as well as water supply and transport network operators to agree to reasonable shared use or construction of networks. The collaborative obligation would concern the use of network structures and constructions and the actual construction of the networks. However, the shared construction obligation would only be applicable if one party of the collaboration is a telecommunications operator and provided that costs are not increased for either party compared to separate construction. Legislative proposals related to collaboration will have no effect on the construction regulations, permit regulations or occupational safety regulations concerning the construction or use of networks. A new act being planned would also obligate network operators and officials to provide information on future network projects and for existing networks to be generally available through a centralized information service. The Finnish Communications Regulatory Authority (Ficora) would function as a centralized information centre and a mediator for possible disagreements related to collaboration. In addition to the act on shared construction, the Government proposes amendments to the Information Society Code insofar as it concerns the internal networks of buildings and real estate. The amendment would make it obligatory to build an internal network in conjunction with new buildings and larger renovations. The Government decided on November 12, 2015 on the contents of the act on shared construction and use as well as amending the Information Society Code. The new laws are scheduled to enter into force on July 1, 2016.

(November 18, 2015) cellular-news.com

France



The first day of the French 700-MHz spectrum auction drew to a close on Monday with the running total standing at €2.71 billion. France's telecom regulator announced that after seven rounds of bidding, the price of spectrum had reached €451 million per 5 MHz block. Bidding has already crept above the reserve price of €416 million per 2x5 MHz block. "The auction is not over," ARCEP said in a statement. "The collective demand of the bidders is significantly greater than the six [available] blocks." Bidding will recommence on Tuesday at a price of €456 million per block, it added. France's four main mobile operators – Bouygues Telecom, Free Mobile, Numericable-SFR and Orange – are all taking part in the auction. Under the auction rules, no bidder may win more than three blocks of 700-MHz spectrum. However, the actual limit for each operator is set based on the amount of sub-1 GHz spectrum it already owns. ARCEP has capped the total amount of spectrum any player can hold across the 700-MHz, 800-MHz and 900-MHz bands at 2x30 MHz. (November 18, 2015) telegeography.com

Germany



The Federal Network Agency (FNA) has approved a EUR1 billion (USD1.1 billion) plan by Deutsche Telekom (DT), which provides fixed and mobile services under the brand Telekom Deutschland, to upgrade its copper lines with Vectoring technology, Reuters reports. In a draft decision, the watchdog said that its approval of the plan was conditional on DT giving its competitors access to the technology, although the Bonn-based telco can deny access in areas where alternative networks are already available. Vectoring can only be installed by one operator in each street cabinet, following which the new infrastructure can be used by all operators. Earlier in February, DT unveiled plans to roll out VDSL Vectoring to an additional 5.9 million homes by 2018, increasing coverage to around 80% of German homes. Customers in the areas upgraded with VDSL Vectoring technology are able to access maximum speeds of 100Mbps download and 40Mbps upload. (November 24, 2015) telegeography.com

Ghana



Ghana's National Communications Authority (NCA) has received applications for spectrum in the 800MHz band from four companies, it has announced. MTN Ghana, Surfline Communications, Goldkey Telecom and Migson Communications each submitted applications by the November 9, 2015 deadline and now await assessment of eligibility by the NCA. The regulator is planning to auction two blocks of 2x10MHz spectrum in the aforementioned band (valid for 15 years), with a minimum reserve price of US\$67.5 million. The regulator noted that applying entities must be registered under the laws of Ghana and duly certified to operate in Ghana, while entities with foreign ownership – companies, joint ventures or consortia – must have a minimum of 35% Ghanaian ownership. Applicants failing to meet the criteria are requested to submit a letter of commitment to have the minimum 35% Ghanaian ownership in place within 13 months from the license's validity date, or otherwise face reduction of two years in their license duration, plus an additional year for each year in which the threshold is violated. The NCA will announce its findings 'in due course'. (November 13, 2015) telegeography.com

GSMA



GSMA chief regulatory officer John Giusti appealed to governments to agree a harmonization plan to enable sub-700 MHz spectrum bands to be used for mobile and broadcast during the World Radiocommunication Conference (WRC-15) in Geneva. Giusti said the sub-700 MHz UHF band, which covers frequencies from 470 MHz to 694 MHz, could be a critical means for governments to extend mobile broadband coverage to citizens across wide areas, including rural and heavily populated urban sites. He called for governments to agree a co-primary allocation for mobile and broadcast, noting that such consensus would enable spectrum harmonization that would ultimately cut the cost of compatible devices for consumers by driving economies of scale for equipment capable of accessing the band. "Today, the UHF band is lightly used for terrestrial broadcasting in many countries. By implementing the latest technologies, these legacy services could be maintained in a smaller amount of spectrum, maximizing the use of this valuable spectrum

resource by allowing both mobile and broadcasting below 700 MHz," Giusti explained in a statement. The chief regulatory officer also said that the GSMA is not pushing for terrestrial TV broadcasts to be dropped. Rather, he said existing deployments of co-primary allocations of the sub-700 MHz band throughout the world have proved that the spectrum can support both mobile and broadcast services. "There is no evidence that the existence of a co-primary allocation to mobile has had a negative impact on broadcast investment," he said, adding: "Indeed, investment should remain strong as long as there is belief in the market for broadcasters' services and in the ability to reach citizens over the terrestrial broadcasting platform." WRC-15 began on November 2 and runs through November 27. The aim of the conference is to review global Radio Regulations and agree any necessary revisions. For example, the GSMA previously predicted the conference would see the 700 MHz band moved from a regional to a globally harmonized band. Giusti said failure to go beyond that by agreeing harmonization of the sub-700 MHz band "would put unnecessary constraints on the ability of governments to choose how best to meet the needs of their citizens in the coming decade. Taking into account the WRC cycle, it would likely not be until at least 2023 before governments could revisit allocations in the sub-700 MHz band, with a further five to ten years before it would reach the public in the form of new and innovative services." (November 20, 2015) [fiercewireless.com](#)

The GSMA has published a new report outlining the global socio economic benefits that could be realized with the identification of L band spectrum (1350 1400MHz 1427 1518MHz) for mobile services during the international treaty negotiations at the World Radiocommunication Conference (WRC 15). The study highlights that there is nearly unanimous commitment around the world for a mobile broadband identification in the L-band frequency range 1427-1518MHz. However, the report describes the fragmented situation in the Asia Pacific region where only 12 countries currently support the use of the centre portion (1452-1492MHz) of the band for mobile. This lack of support threatens to hinder the economies of scale and uptake of mobile technology that globally harmonized L-band spectrum could deliver. "Spectrum harmonization is a major objective for WRC-15" said John Giusti, Chief Regulatory Officer, GSMA. "With less than a week until the start of WRC-15, we hope that the Asia Pacific countries will review their position on L-band spectrum and align with the rest of the world in order to drive low-cost access to mobile services to meet rapidly growing demand, enhance rural coverage and improve service quality." According to the study, the potential economic benefits from mobile services gaining access to the 40MHz of spectrum at 1452-1492MHz could amount to more than USD40 billion globally. Significantly, a further USD9 billion in economic contribution could be realized if those Asia Pacific countries currently not supporting this portion of the band changed position to identify its use for mobile services. The characteristics of L-band frequencies are ideally suited for mobile services as they are capable of delivering additional capacity and coverage over relatively large areas, including inside buildings. A portion of the band is already allocated to mobile services worldwide and another is reserved for digital radio broadcasting, but is largely unused, creating an ideal basis for a wider mobile allocation. The centre portion of 40MHz could be made available for mobile services as early as 2018-2020, while the surrounding 40MHz could be available

in many countries by 2025, with limited disruption to other services. The 12 supporting countries in Asia Pacific, spearheaded by Japan, are submitting a joint proposal into the WRC-15 to identify the missing 1452-1492MHz for mobile broadband in their countries. This could mean part of the region will benefit from this global band, while others will deny their citizens access to those benefits. "We urge other Asia Pacific countries to join the proposal in support of the centre portion of the L-band so that they can leverage the enormous economies of scale that will result. A positive outcome at WRC-15 to support the wider L-band will allow national regulators to plan now to make sure the band is available for mobile services as the demand from citizens and businesses requires," continued Giusti. "This would help governments across the globe meet future mobile data demand, and importantly reap the considerable social and economic benefits that mobile broadband delivers."

(November 2, 2015) [cellular-news.com](#)

India



A change in the way India's Department of Telecom (DoT) calculates the total bandwidth available in a service area will effectively allow operators to hold more spectrum in a given region. The Telecom Commission, the DoT's highest decision-making body, has recommended changing how it measures total bandwidth so all spectrum available, regardless of whether operators have returned the airwaves to the DoT and they remain unsold or they are merely unused, must be counted, The Economic Times reported. The new formula is a major change from the existing regulation that doesn't include spectrum that is returned as part of the overall pool. This negatively impacts holding limits by artificially shrinking the spectrum pool as the caps are calculated by dividing an operator's holding by the total airwaves available in a region. Regulations limit an operator to holding 25 per cent of the total spectrum in one service area and no more than 50 per cent of the airwaves in a single band (in one service area). A month ago the DoT decided not to increase existing spectrum caps. Coming soon after the cabinet approved spectrum sharing and trading, the decision was seen as a major setback for the country's operators as it would limit the sharing and trading of spectrum between the two largest players in a service area. Analysts said at the time it would slow efforts to improve use of the country's limited spectrum through consolidation. The commission's decision, which needs to be approved by the telecom minister, will give operators more flexibility to use spectrum effectively by loosening the current restrictions on sharing and trading within a service area. The Times quoted Rajan Mathews, director-general of the Cellular Operators Association of India, as saying: "Expanding the definition of the amount of spectrum to be included is another way to make headroom for a consolidation and would be welcome."

(November 20, 2015) [mobileworldlive.com](#)


India's Finance Ministry headed by Arun Jaitley is mounting pressure on the Telecom Ministry run by Ravi Shankar Prasad to conduct the next round of spectrum auctions before March 2016 to meet its budgetary requirements, Hindu Business Line reported. Funds from the spectrum auction will be important to meet the fiscal deficit target of 3.9 percent of GDP in 2015-16. The report said there will be a shortfall in disinvestment proceeds from the targeted Rs 69,500 crore. This means,

the NDA Government ruled by the BJP will conduct the next round of spectrum auctions in February-March 2016 for selling frequencies in the 2G, 3G, and 4G LTE bands. Spectrum in the 700 MHz band for 4G is likely to be on offer in the upcoming auctions. Financial viability of Indian telecoms will be a question mark. The ongoing call drop issue and the compensation guidelines by TRAI have significantly impacted the investment mood of telecoms such as Bharti Airtel, Idea Cellular, Vodafone, etc. As usual, the Mukesh Ambani-promoted Reliance Jio Infocomm, which will be launching 4G in the second quarter of 2016, will be a main force in the Indian spectrum auction market. Budget 2015-16 has targeted raising Rs 42,865.62 crore as non-tax revenue from one-time spectrum charges and auction of 2G airwaves in the 1800 MHz, 900 MHz and 800 MHz bands. Since telecoms are paying spectrum fee in installments, the India government needs very good response from the domestic telecoms before going ahead with the auction. During the last auction in March, the NDA government mobilized Rs 1.10 lakh crore by selling 5 MHz each in the 17 circles totaling 85 MHz. It is not known whether the recent guidelines on spectrum sharing and spectrum trading will have some negative impact on the future of spectrum auctions in India. (November 19, 2015) telecomlead.com

The BIF has urged telecom secretary Rakesh Garg to ensure such broadcast frequencies in the TV UHF band, which, typically, lie in the 470-698 MHz range, be only allocated through an open auction and not given away free, citing the spectrum's excellent propagation characteristics. BIF represents companies such as Bharti Airtel, Reliance Communications, Vodafone, Qualcomm, Ericsson, Intel, Marvell, UTStarcom and Bharat Sanchar Nigam. "Since TV UHF spectrum has excellent propagation characteristics, making it ideal for both in-building data services and rural coverage, it must be auctioned, given the limited amount of spectrum available for mobile services in the conventional 800, 900, 1800, 2100 MHz bands," said BIF in a letter to Garg, a copy of which was seen by ET. BIF president T V Ramachandran told ET that "technology companies should also be encouraged to access TV UHF band airwaves only by participating in a suitable auction process, and with level-playing field conditions assured for all players". According to him, all the talk of deploying TV white space technology for delivering affordable last mile broadband connectivity "is quite misleading" since there is "no genuine TV white space" in India. "We actually have wide open spectrum spaces since with only one terrestrial broadcaster (read: Doordarshan), the airwaves in the relevant TV UHF band remain largely unutilised." Small wonder, BIF feels India can "ill afford to fritter away this precious resource", and has urged the government to ensure that the wide expanse of idle spectrum in the TV UHF band be made available to all players and aspirants, be it mobile and broadband operators or new entrants, through an open and transparent auction process.

(November 10, 2015) telecom.economicstimes.indiatimes.com

Indonesia

 The process of GSM operators refarming their 1800MHz spectrum for 4G LTE has now entered the final round, with Telkomsel, Indosat, XL Axiata, and Tri Indonesia all working hard to complete the exercise on time. The latest works involve the areas of Bogor, Depok, Tangerang and Bekasi (Bodotabek), IndoTelko writes, with refarming expected to continue for the next two weeks in Jakarta. To date, refarming in no fewer than 40 of the total 42 clusters throughout Indonesia has already

been carried out, with cellcos looking to minimize disruption by working through the night. Telkomsel and XL each hold blocks of 22.5MHz of 1800MHz of spectrum that is being reorganized under the plan, while Indosat has 20MHz and Tri 10MHz. In April this year Jakarta-based telecoms industry watchdog the Indonesian Telecommunications Regulation Body (BRTI) warned that as many as 180 million mobile phone users in the country would be affected by the reallocation of 1800MHz frequencies between mid-April and December 31, 2015 – which it said would affect voice calls, SMS and data services that use either GPRS or EDGE technology on the cellcos' systems. (November 9, 2015) telegeography.com

Kosovo



Regulatory Authority for Post and Electronic Communications (Autoriteti Rregullator i Komunikimeve Elektronike dhe Postare, ARKEP) has announced plans to award spectrum in the 2100MHz band for GSM/UMTS/LTE/WiMAX services. The watchdog notes that on 23 October it received an application from incumbent Post and Telecommunication Kosovo (PTK) – which offers wireless services under the Vala brand – requesting the use of 2x10MHz in the 2100MHz band for 3G and 4G services. As such, ARKEP has given other interested parties 42 days from that date to submit their own applications, following which it will review all requests and determine the conditions and procedure for the allocation of 2100MHz frequencies.

(November 3, 2015) telegeography.com

Maldives



The Communications Authority of Maldives (CAM) has reported that the number of mobile broadband subscribers exceeded the 200,000 mark in the third quarter of 2015, with the total reaching 217,801 at the end of September, compared to 196,204 three months earlier and 136,625 at the end of 3Q14. Fixed broadband subscribers stood at 21,413 as of 30 September 2015, up slightly from 20,458 twelve months earlier. According to the regulator, mobile telephony customers in the Maldives grew 9.2% from 656,065 to 716,725 over the same period, with pre-paid users accounting for the majority (88.4%, or 633,348) of wireless users at end-September 2015. By comparison, the CAM reported that the number of fixed telephony lines in service (including payphones) fell from 23,021 in 3Q14 to 22,210 a year later. (November 9, 2015) telegeography.com

Mauritania



Telecoms watchdog Autorite de Regulation (ARE) has warned the country's three mobile operators, Mauritel, Chinguitel and Mattel, over poor network coverage and quality of service (QoS). Mattel has been criticized for its poor levels of service in twelve cities, while Mauritel had problems in four cities and Chinguitel was slated for unacceptable GSM QoS in three cities and poor CDMA QoS in four cities. The regulator carried out studies on the three telcos between September-October this year. Operators have been given one month to improve their levels of service or face fines. Mauritania was home to 4.4 million mobile users at the end of June 2015. (November 19, 2015) telegeography.com

Mexico



Mexico's Federal Telecommunications Institute (IFETEL) has approved plans to auction 80MHz worth of 4G-suitable Advanced Wireless Services (AWS) spectrum. The approval document confirms that the process will adhere to a Combinatorial Clock Auction (CCA) format, which the watchdog hopes will lead to a more efficient distribution of spectrum; that type of auction has previously been utilized in markets such as Austria, Canada and Ireland. IFETEL invited public opinions on the tender between 21 September and 16 October. In September the watchdog noted that the auction will comprise 30MHz of AWS-1 airwaves (1710MHz-1725MHz/2110MHz-2125MHz) alongside a 50MHz block of AWS-3 spectrum (1755MHz-1780MHz/2155MHz-2180MHz). The process will be open to existing mobile operators, as well as 'potential new operators wishing to deploy a wireless network in Mexico', and is expected to take place in January 2016.

(November 12, 2015) telegeography.com

Telefonica has been slapped with a record fine in Mexico after its Pegaso unit was ruled to have not met minimum mobile call quality standards. Tests carried out by the Federal Telecommunications Institute (IFT) in the city of Leon, Guanajuato in January found a high proportion of dropped calls. As a result, the regulator ordered the company to pay 410.9 million pesos (€22.8 million), the largest fine imposed by the IFT since its formation in 2013. The decision was reached by a majority of five votes to two. Telefonica has 15 days to challenge the decision. Telefonica acquired a 92% stake in Pegaso from Sprint and Leap Wireless in 2002, and eventually increased its holding to 100%. Telefonica began integrating Pegaso under its Movistar brand in 2003. It is unclear if the Spanish incumbent still actively pushes Pegaso-branded services in Mexico. (November 10, 2015) totaltele.com

Mozambique



The government of Mozambique has passed the first reading of a new bill to amend telecoms legislation to oblige operators to share their infrastructure. A report from the Mozambique news agency AIM says the bill is designed to promote convergence by using a single infrastructure to carry voice, data, images, radio and television. Minister of Transport and Communications Carlos Mesquita said that 'in order to improve the functioning of the telecommunications market and guarantee the basic rights of consumers' it would now be obligatory for phone companies 'to share the existing infrastructures'. The minister says the move should 'contribute to an increase in coverage of rural areas, an increase in the number of citizens served by high performance fiber-optic networks, and continual improvement in the average internet speed'. Fixed broadband penetration in Mozambique is low by regional standards, with less than 1% of households subscribing to wireline internet services.

(November 20, 2015) telegeography.com

Myanmar



Myanmar's government will release 4G spectrum as soon as operators are prepared to offer the faster mobile broadband service. Deputy Minister of Communications and Information Technology U Thuang Tin said it is ready to supply the required spectrum, without mentioning how it would be made available or the specific spectrum band. Market watchers expect it to be the 1.8GHz band and for the government to call a tender as it did with 2G and 3G spectrum in 2013. The country's three mobile operators, however, are in no hurry to invest in 4G networks as they work to expand coverage across the country of 65 million people and voice and data tariffs continue to fall. State-owned Myanma Posts and Telecommunications (MPT) and Telenor Myanmar operate 2G and 3G networks, while Ooredoo Myanmar has rolled out a 3G-only network. Both foreign players, which launched service just over a year ago, have invested heavily to enter the market, where mobile penetration (unique subscribers) has more than doubled to 31.6 per cent in one year. KDDI-backed MPT is expected to invest about \$2 billion in the country over the next ten years. Ooredoo has committed to investing \$15 billion in the country over five years to provide coverage to 97 per cent of the population. In July MPT reduced the price of voice calls from MMK35 (2.7 cents) to MMK23 (1.8 cents) a minute, putting pressure on its two foreign rivals. In May, after Ooredoo introduced a promotion offering data at MMK6 per megabyte, Telenor responded with an MMK5 per megabyte rate just hours later. Ooredoo had earlier cut its pay-as-you-go internet rates from MMK10 per megabyte to MMK6 to match Telenor's offer. Both Telenor and Ooredoo said they will only look to move to 4G after a sufficient number of customers have LTE-enabled handsets, which will require prices of 4G smartphones to come down. A more pressing issue than 4G is the expected entry of a fourth mobile player, in the form of a consortium of 11 local companies, led by state-owned Yatanarpon Teleport (YTP), which is looking for investment from a foreign partner. The government this week appointed Roland Berger, the consultant hired to advise on the 2013 tender, to select the international partner. The consortium will hold a 51 per cent stake in the venture and the international partner will have a 49 per cent interest. YTP, a local ISP, has long said it wanted to form a consortium of local partners to bid for the country's fourth mobile license, while Vietnam's Viettel has previously shown interest in entering the Myanmar market. According to GSMA Intelligence, the country had 31.6 million mobile connections at the end of September, up from 9.3 million in Q3 2014. MPT had a 48 per cent market share, while Telenor had a 37 per cent share and Ooredoo a 15 per cent share.

(November 21, 2015) Myanmar Times

Nigeria



In October 2015 it was revealed that MTN Nigeria had been slammed with a USD \$5.2 billion fine by Nigeria's Communications Commission (NCC). Weeks after the announcement, MTN revealed in November 2015 that it had appointed Phuthuma Nhleko as Executive Chairman in a temporary capacity as Sifiso Dabengwa had resigned as CEO. "Due to the most unfortunate prevailing circumstances occurring at MTN Nigeria, I, in the interest of the Company and its shareholders, have tendered my resignation with immediate effect," stated Sifiso Dabengwa. While MTN has taken blow after blow, it seems as though

the company is in line for another blow yet again. According to a report via thisdaylive.com, MTN Uganda has been ordered by the commercial court to pay the sum of Shs 2.3 billion (about \$662,000 depending on the exchange rate) in damages to EzeeMoney Limited for, according to the report, "sabotaging its business." The report reveals that Justice Henry Peter Adonyo on November 6, 2015 also ordered MTN to stop acting in an unlawful and anti-competitive manner, which denies other businesses an opportunity to prosper. The report adds that Justice Adonyo said MTN should pay Shs 800 million to EzeeMoney in general damages for loss of business. It should also pay a penalty of Shs 1.5 billion in punitive damages to deter not only MTN, but also warn other companies against noncompetitive business tactics. According to the report EzeeMoney, an e-money business, had obtained a contract from MTN for the provision of digital transmission [E1] and 30 fixed telephone lines to carry out its mobile money business. However, in 2013 MTN cancelled the contract, saying EzeeMoney was a direct competitor to its mobile money business. According to the report, the court had found that MTN coerced its agents to reject EzeeMoney. One witness told the court that he was an MTN money agent and he was restricted from dealing with other firms in the same business by signing exclusivity agreement. The Ugandan commercial court is the latest to impose a fine against the cell phone company.

(November 19, 2015) itnewsafrika.com

Nigeria has extended the payment deadline for the US\$5.2 billion fine imposed on MTN, it emerged on Monday. "Although the Nigerian Communications Commission (NCC) set a deadline for payment of the fine by November 16, 2015, shareholders are advised that the Nigerian authorities have, without prejudice, agreed that the imposed fine will not be payable until the negotiations have been concluded," said MTN, in a statement. The South Africa-based telco has been in talks with government officials and NCC representatives over the penalty levied on its Nigerian operation since the beginning of November. MTN Nigeria was slapped with the fine in late October after failing to disconnect 5.1 million unregistered SIM cards in accordance with the NCC's timeline. The telco was fined 200,000 naira (approximately \$1,000) per subscriber, leaving it with a total bill of \$5.2 billion. The fine prompted last week's resignation of MTN group CEO Sifiso Dabengwa. His interim replacement, Phuthuma Nhleko, said his first priority is to deal with the urgent situation in Nigeria before finding a permanent successor to Dabengwa. "MTN is committed to resolving the matter together with the NCC as soon as possible and will continue to update stakeholders of any material developments regarding the aforementioned fine," MTN said.

(November 16, 2015) totaltele.com

The number of mobile internet users on Nigeria's telecoms networks had reached 97.21 million on September 30, up from the 95.37 million recorded in August. This is according to the Nigerian Communications Commission (NCC). According to the NCC both the GSM and CDMA networks increased by 1.84 million in September 2015. The NCC also revealed that 97.06 million mobile internet users were on GSM networks and the other 151,816 users on CDMA networks. However, CDMA operators had lost 367 internet users from the 152,183 recorded August 2015. The NCC said MTN has 41.84 million subscribers browsing the internet on its network, the highest among the telecom operators. MTN recorded an increase of 423,448 internet subscribers in September

after recording 41.41 million in August. Globacom had 21.89 million subscribers surfing the net on its network in September. About 20.77 million surfed the internet on the network in August. Airtel Nigeria had 17.73 million internet users in September, against 17.49 million customers in August. Internet users of the Airtel network increased by 235,941 in September. Etisalat Nigeria had 15.59 million customers browsing the web in September, against the 15.54 million users in August 2015. CDMA operators Multi-Links and Visafone had a joint total of 151,816 internet users on their networks in September. Visafone has a decrease of 393 customers surfing the internet in September, with a total of 151,530 internet users, compared with 151,923 users in August.

(November 6, 2015) itnewsafrika.com

MTN Group has issued a statement clarifying that it has not reached an agreement with the Nigerian Communications Commission (NCC) over a NGN1.04 trillion (US\$5.2 billion) fine imposed on its local mobile unit last week, following 'speculation and false information in the media' that a resolution had been agreed. The NCC has given the South African firm until 16 November to pay the fine, which was issued to the mobile market leader after it failed to meet a deadline to disconnect around 5.1 million unregistered subscribers. MTN Group said it is continuing to engage with the authorities in Nigeria on this matter, and added that it will inform stakeholders of any material developments via the Johannesburg Stock Exchange (JSE). In other news, local newspaper Vanguard reports that the NCC plans to award new spectrum licenses next year for the provision of telecoms services. These include the delayed auction of ten-year licenses for spectrum in the 2.6GHz frequency band, which was postponed for a second time in March this year, and the sale of the five remaining regional infrastructure company (InfraCo) licences. MainOne Cable and IHS secured the first two concessions – for Lagos State and the North Central Zone, respectively – in January 2015. The permits allow for the deployment of metropolitan fiber-optic infrastructure and associated transmission equipment on an open access, non-discriminatory and price-regulated basis. Under the next phase of licensing, licenses will be awarded for the five remaining zones, namely: North East, North West, South East, South West and South South. (November 4, 2015) telegeography.com

The Nigerian Communications Commission (NCC) has approved the renewal, and consequent extension of the tenure of MTN's operating spectrum in the 900MHz and 1800MHz frequency bands. With this renewal and extension, MTN's operating spectrum which was issued along with the Digital Mobile License (DML) in 2001 (with an original expiry date of February 2016), has now been extended to 31 August 2021. The license extension notification was contained in a letter dated 2 November 2015. The sum of US\$94,225,152.75 (ninety four million, two hundred and twenty five thousand, one hundred and fifty two dollars, seventy five cents) is payable as a spectrum fee for the 5-year extension period by no later than 31 December 2015 and conditional upon MTN fulfilling all its regulatory obligations. In February 2001, the NCC issued DML's to three mobile operators. The licenses were bundled with spectrum in the 900MHz and 1800MHz frequency bands. Amongst other authorizations, MTN also holds a Unified Access License and a 3G Spectrum License through which it provides a full bouquet of digital services to its customers throughout Nigeria. (November 3, 2015) africabusinesscommunities.com

Peru



Intensifying competition in Peru has led to a 130.3% year-on-year increase in the amount of numbers being ported each month, with sector regulator the Supervisory Agency for Private Investment in Telecommunications (Organismo Supervisor de Inversión Privada en Telecomunicaciones, Osiptel) reporting a total of 94,200 mobile numbers ported in October 2015 compared to 40,903 in October 2014. The regulator noted that improvements to mobile number portability (MNP) services are beginning to reap tangible rewards for customers, as operators are reducing prices and offering greater incentives, such as increased device subsidies, unlimited access to social networks and substantial discounts for new customers. Telcordia Technologies took over management of MNP services in July 2014 and reduced the porting time to less than 24 hours, prompting a substantial increase in the utilization of MNP. From the introduction of MNP in January 2010 to July 2014 just 263,222 users ported their number to a different provider, but in the subsequent twelve months (to end-July 2015) 581,082 customers migrated to another operator, with monthly ports rising to more than 80,000 in July 2015. Further, according to the regulator's latest statistics, the three months to end-October 2015 saw 267,145 ports. (November 12, 2015) telegeography.com

Philippine



In a bid to grab a slice of the valuable 700MHz frequencies owned by San Miguel Corp (SMC), the Philippines' two biggest operators, Philippine Long Distance Telephone Co (PLDT) and Globe Telecom, have asked the National Telecommunications Commission (NTC) for access to the bandwidth. The pair argues that allowing them access to the 700MHz band would enable them to improve mobile broadband internet speeds for their end users, saying that SMC currently has an unfair allocation of spectrum by dint of its acquisitions in the Philippines. Conglomerate SMC owns rights to use the band through its telecoms units Wi-Tribe (Liberty Telecoms Holdings), New Century Telecommunications and High Telecommunication – its so-called 'ace in the hole' – as it contemplates launching a mobile joint venture with the backing of strategic partner, Telstra of Australia. SMC also owns the Filipino telcos Extelcom, Eastern Telecommunications Philippines (formerly ETPI) and Bell Telecommunications (BellTel), helping to ramp up its presence ahead of the 2016 launch. PLDT's head of regulatory affairs Ray Espinosa says that the NTC should reallocate the 700MHz band to give everyone the opportunity to deliver better internet services. 'So if we want the mobile, the internet to be faster, to provide better quality service to consumers, PLDT Smart and Globe and the others should have access to this 700MHz [band] which is a very scarce resource. All over the world, this particular spectrum is being made available to existing operators as well as new entrants and there is no reason why PLDT and Smart cannot be given access, especially if they are highly unutilized,' Espinosa said. SMC owns rights to a total block of 100MHz of spectrum in the 700MHz band, split between Wi-Tribe (80MHz), High Telecommunications (10MHz) and New Century Telecommunications (10MHz). In Espinosa's opinion: '100MHz assigned and held by three companies is just too much. There [are] a lot of subscribers out there already pining for faster mobile internet service[s] and

we can solve that ... if we are also given some access to that. That is something that we have been seeking; the intercession of NTC ... to give us access on an allocation to that very scarce frequency.' (November 5, 2015) telegeography.com

Senegal



Senegal's government and ARTP, the country's regulator, opened a 4G tender, with interested parties having until mid-January to throw their hats in the ring. A statement said the government has decided to award "one or more new telecommunications licenses" which will be allocated spectrum to run a 4G network. The country has three incumbent operators: Orange, Millicom's Tigo and Express Telecom, a Dubai based group which also has operations in Mauritania, Ghana and Guinea. The statement said the only candidates eligible to bid are Senegalese firms which hold a license for the establishment and operation of a public telecoms network, valid at the date of filing their application. Applications must be submitted to ARTP no later than January 18, 2016. Orange is the country's dominant operator with 8.6 million mobile connections (end-Q3 2015 GSMA Intelligence), with its two rivals each holding about three million mobile connections. No date for the award of the 4G license(s) was given.

(November 17, 2015) mobileworldlive.com

Senegal's telecoms watchdog, the Regulation Authority of Post and Telecoms (Autorite de Regulation des Telecoms et des Postes, ARTP), has published its market observatory for the three months ending 30 September 2015, highlighting that whilst the mobile market continues to expand, the rate of growth has slowed to a near standstill in 2015. According to its findings, a total of 89,066 net new users were added in the three-month period, boosting the country total to over 14.908 million, from 14.819 million at end-June and 14.352 million at 30 September 2014. The report confirms, however, that quarter-on-quarter growth rates this year have eased from 2.22% (Q1), to 0.82% (Q2) and 0.60% (Q3), as the incumbent operators fight for new users in an increasingly saturated market where cellular penetration has passed the 100% mark. Mobile market leader Orange saw its share of the pie contract marginally in Q3 as it shed a net 89,774 users for a total of 8.328 million (55.9% of the market), and second-placed Tigo also lost ground with its base contracting from 3.469 million to 3.406 million over the same period. The beneficiary was third-placed Expresso, which boosted its total by a net 241,853 users for a total of nearly 3.175 million – and increased its market share by over two percentage points in the process. In its report, the industry watchdog noted that while the market is continuing to thrive, it has concerns over the collective failure of the incumbents to deliver the expected improvement in the quality of Senegal's network coverage. According to its findings, even in Dakar – where the cellcos each have their operational headquarters – a large part of the population is still without 'effective' coverage. ARTP's Abdou Karim Sall said: 'The population not covered by the 3G network in Dakar is 26.69% for Orange, 47.42% for Tigo and 52.38% for Expresso.' The official noted that for many thousands of paying telecoms customers there, quality of service (QoS) is 'jeopardised by poor network coverage'. Further, the ARTP found that in Senegal's 45 administrative departments, in addition to the poor 2G coverage, only Orange had a 3G network in each department, with Tigo covering just twelve and Expresso having no 3G coverage

at all outside of Dakar, Saint Louis, Thies, Fatick, Kaolack, Tambacounda & Diourbe. (November 12, 2015) [telegeography.com](#)

Serbia



Serbia's Regulatory Agency for Electronic Communications & Postal Services (Regulatorna Agencija za Elektronske Komunikacije i Postanske, RATEL) has completed the auction of 4G 800MHz digital dividend mobile licenses, awarding concessions to each of the country's three cellular network operators for a total of EUR105.05 million (US\$111.81 million). Telekom Srbija (under the Mobile Telephony of Serbia [MTS] brand) paid EUR35.05 million for its 2x10MHz technology neutral concession, while Telenor Serbia and Mobilkom Serbia (VIP Mobile) both paid EUR35.00 million for similar licenses within the 791MHz-821MHz / 832MHz-862MHz spectrum range. The incumbent trio were the only bidders in the contest which set the starting price for a 2x5MHz block at EUR17.5 million (meaning that the minimum EUR35 million price for each 2x10MHz license was only exceeded by a fraction). The LTE-suitable permits are valid for ten years, extendable for another five, and winners are expected to launch mobile broadband services using the new frequencies within four months of the award of licenses.

(November 23, 2015) [telegeography.com](#)

Taiwan



Taiwan's National Communications Commission (NCC) is looking to stage an 'open-bid' 4G spectrum auction comprising six licences in the 2500MHz-2600MHz frequency band on 17 November. A total of 190MHz of spectrum will be made available, with the overall floor price set at TWD14.4 billion (USD440 million). According to the DigiTimes incumbent operators Chunghwa Telecom, Taiwan Mobile, Far Eastone Telecommunications, Asia Pacific Telecom (APT) and Taiwan Star Cellular are all pre-qualified to bid in the auction, while no competitor can acquire more than 70MHz of bandwidth.

The spectrum lots have been divided as follows:

- Block D1 (2x20MHz): 2500MHz-2520MHz/2620MHz-2640MHz
- Block D2 (2x20MHz): 2520MHz-2540MHz/2640MHz-2660MHz
- Block D3 (2x20MHz): 2540MHz-2560MHz/2660MHz-2680MHz
- Block D4 (2x10MHz): 2560MHz-2570MHz/2680MHz-2690MHz
- Block D5 (25MHz – unpaired): 2570MHz-2596MHz
- Block D6 (25MHz – unpaired): 2595MHz-2620MHz.

(November 9, 2015) [telegeography.com](#)

Thailand

AIS and True Move — Thailand's first and third ranked operators by subscribers – outbid two rivals to win the country's first two 4G licenses, each paying more than \$1 billion for 15MHz of 1.8GHz spectrum. The long-delayed auction generated THB80.8 billion (\$2.25 billion) for the government, with AIS winning with a THB41 billion bid and True Move paying THB39.8 billion. The bids were 158 per cent and 150 per cent over the reserve price respectively. The country's second largest operator dtac and Jasmine International, a fixed-line broadband provider, lost out in their attempt to secure

the 18-year 4G licenses during the auction that had 86 bidding rounds and lasted more than 30 hours. National Broadcasting and Telecommunications Commission (NBTC) secretary-general Takorn Tantasith said that the megahertz per person cost of THB18 (\$0.50) was equal to the cost in developing countries, the Bangkok Post reported. AIS and True Move need to pay half the bidding fees within 90 days of the auction and have four years for coverage to reach 40 per cent of the population. The regulator has said 4G tariffs can't be higher than 3G prices. The 900MHz auction (two blocks of 10MHz) is scheduled on December 15. The 4G auctions, which have been delayed by more than a year since the military coup in May 2014, were expected to raise more than \$2 billion for the government. (November 12, 2015) [mobileworldlive.com](#)

Thailand's telecoms regulator extended an auction of two 4G licenses on Wednesday after fierce competition from four operators, which had drawn nearly 60 billion baht (\$1.7 bln) after 15 hours of bidding. Advanced Info Service Pcl (AIS), True Corp, Total Access Communication and Jasmine International vied to win the licenses for bandwidth on the 1800 MHz frequency. After 15 hours of bidding, 28.65 billion baht had been bid on the first license and 30.24 billion baht on the second, more than doubling the estimated value of the bandwidth, according to data from the regulator. This compared with a base price of 15.91 billion baht per license. Shares in Thai telecom firms fell on concerns that the licenses may be overpriced. The companies are in a quiet period, meaning they cannot comment publicly on the auction. The National Broadcasting and Telecommunications Commission (NBTC) initially planned to close the auction at 9 p.m. local time (1400 GMT), but decided to give a half-hour break before resuming bidding until they have winners, NBTC Vice Chairman Settapong Malisuwan told a news conference. Analysts had expected AIS, Thailand's largest mobile operator, and third-ranked True Corp to win the licenses. AIS, 23 percent owned by Singapore Telecommunications Ltd, is the only major Thai operator that does not offer a 4G service. Analysts expect a license will help AIS increase its revenue from mobile data. True Corp, 18 percent owned by China Mobile and controlled by billionaire Dhanin Chearavanont's Charoen Pokphand Group, needs a license to maintain its leading position in 4G services, analysts said. The regulator plans to hold another auction for two 4G licenses of 900 MHz frequency on December 15. (November 11, 2015) [reuters.com](#)

Thailand has once again changed the date for its auction of spectrum in the 900 MHz band. The country was due to kick off the sale next week, but has pushed it back to December 15, according to local press reports, the date it had originally set before changing the timetable last month. The National Broadcasting and Telecommunications Commission (NBTC) said the postponement stems from a desire to ensure greater transparency, boost bidding competition, and prevent collusion, the Bangkok Post reported. NBTC secretary-general Takorn Tantasith said the rescheduling proposal will be submitted to the cabinet for approval on Tuesday, the paper said. The NBTC plans to begin the sale of spectrum in the 1800 MHz band on Wednesday next week, as scheduled. It pulled forward the date of the 900-MHz sale to November 12 because a large time lag after the 1800-MHz sale would give the winners of the higher frequency an advantage, the Bangkok Post said, without fully explaining how that advantage would come

about. However, that decision has now been reversed. The NBTC has four licenses to auction, two in the 1800 MHz band at two at 900 MHz. Takorn insisted that the date change will not necessarily affect operators' plans to roll out 4G services. He expects to see commercial 4G services in February 2016. The NBTC has also deferred the switch-off date for AIS's 2G services running in the 900 MHz band, The Nation reported. The telco now has until December 22, having previously been told that its service would be closed down on November 19, the paper said. (November 3, 2015) totaltele.com

Ukraine



The Ukrainian State Centre of Radio Frequencies (UCRF) has announced that it will repeat the bidding for the selection of equipment and software suppliers for the launch of mobile number portability (MNP) having declared the process invalid, BizLiga reports. TeleGeography notes that the head of the UCRF had previously targeted March 2016 as the launch date for MNP, but this now looks likely to be pushed backwards. According to UCRF Director of Administration Vadim Gulko, none of the four bidders provided the requisite complete set of documents in their initial applications last month. The four bidders were named as Dialink, T4v, ES HAY Centre and Internet Technology Centre.

(November 10, 2015) telegeography.com

United Kingdom



An in-depth investigation into the proposed purchase of UK mobile network operator O2 UK by rival Hutchison 3G UK (Three UK) has been opened by the European Commission (EC), with a view to assessing whether the deal will harm competition. The EC said it had concerns that the merger of the two cellcos could lead to higher prices, less choice and reduced innovation, with Commissioner Margrethe Vestager, in charge of competition policy, cited as saying: 'With this investigation we want to ensure that consumers in the UK do not pay higher prices or face less choice as a result of this proposed takeover.' Following an initial market investigation the EC raised a number of concerns, the first of which was that with O2 UK and Three UK currently competing against one another in the retail mobile sector, the deal could 'remove an important competitive force and ... the merged entity would have limited incentives to exercise significant competitive pressure on the remaining competitors'. Additionally, it was thought the deal could reduce the number of network operators that are effectively willing to host MVNOs; with prospective and existing MVNOs having less choice of host networks this would mean weaker negotiating power to obtain favorable wholesale access terms. The final concern was that the reduction in the number of competitors following the merger would risk leading to 'a weakening of competitive pressure and increased likelihood that network operators will coordinate their competitive behavior and increase prices on a sustainable basis on the retail and wholesale markets'. The EC will now consider the transaction in-depth, to determine whether its competition concerns are confirmed. The Commission has 90 working days, until March 16, 2016, to make a decision on the matter.

(November 2, 2015) telegeography.com

Zimbabwe



Vimpelcom announced that it has agreed to sell its stake in Telecel Zimbabwe to a government-owned entity for US\$40 million. The Russian operator controls Telecel, a mobile operator in Zimbabwe, via its Global Telecom Holding unit. Vimpelcom owns 51.9% of Global Telecom Holding, which in turn owns 60% of Telecel Zimbabwe, via its Telecel International subsidiary. Vimpelcom and GTH have brokered a deal to sell the stake in Telecel to ZARNet, an Internet and ICT services provider owned by the government, through the Ministry of Information & Communication Technology, Postal and Courier Services. Closure of the deal is subject to customary conditions, Vimpelcom said. There has been talk of Vimpelcom selling out of Zimbabwe for some time. Earlier this year Reuters reported that the telco had offered its 60% stake to the government, which refused to buy it on the grounds that it did not have the funds. Empowerment Corporation, a group of local shareholders that owns the remaining 40% of Telecel, made a similar offer, the newswire said. The government at the time said that ZARNet would pursue the opportunity. It is not yet clear whether ZARNet has also agreed a deal for Empowerment Corporation's 40%. Vimpelcom's bid to sell the company to the state came after the government stepped in to prevent it selling the shares to a foreign buyer, Reuters explained. Telecel competes with larger players Econet Wireless and NetOne in Zimbabwe's mobile market. (November 18, 2015) totaltele.com

Zimbabwean mobile operator Econet Wireless has revealed that it has disconnected around one million unregistered lines. Legislation in Zimbabwe requires that all SIM card owners register their details to avoid mobile phones being used for illegal activities. Econet said text messages had been sent to the unregistered numbers giving users until 13 November to submit their information. While Econet itself claimed 9.2 million users at the end of February this year, figures produced by telecoms regulator POTRAZ put its active registered subscriber total at 6.62 million at the end of March. The firm is still well ahead of its two mobile market rivals, however, with NetOne and Telecel having around 3.2 million and two million customers respectively. (November 16, 2015) telegeography.com

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PCCW Global wins Best Cost Efficiency Solution Award at AfricaCom

PCCW Global, the international operating division of HKT, Hong Kong's premier telecommunications service provider, won the Best Cost Efficiency Solution award at the 8th annual AfricaCom Awards held in Cape Town, South Africa on November 18. PCCW Global was recognized for its work in deploying a meshed network topology and optimizing voice routing to keep African roaming traffic in Africa. PCCW Global's regional breakout (RBO) solution leverages fiber connectivity in 40 countries across Africa and removes the need to backhaul traffic via Europe, which is inefficient and costly for service providers while increasing network latency and reducing calling quality. PCCW Global's RBO solution enables African roaming traffic to be routed much more quickly between countries in Africa. Mr. Marc Halbfinger, Chief Executive Officer of PCCW Global, said, "Roaming models in Africa have traditionally backhauled traffic via Europe, which is inefficient and costly for service providers while increasing network latency. Our regional breakout model removes the need to route via Europe and allows African roaming traffic to be routed quickly from country to country. This is a step forward for quality and efficiency in

African telecoms." The AfricaCom awards recognize companies and organizations that are promoting digital excellence in Africa. The awards judging panel included representatives from Ovum, Balancing Act and Disrupt Africa. Traditional roaming models route local African voice and data traffic through London and back to the destination country. The average latency from Africa to London one-way is approximately 200 milliseconds, which amounts to 400 milliseconds for the round trip. This is similar to almost achieving the traditional satellite latency of 600 milliseconds. PCCW Global's regional break out service enables distinctively efficient lower latency between South Africa and Mozambique of 7 to 8 milliseconds. A similar scenario applies for data originating from Mozambique to Tanzania, with latency of 15 milliseconds. Mr. Halbfinger said, "We are finding new ways to serve customers in local markets in Africa and create new value for our partners across the continent. The local markets of Africa are more dynamic than ever and that's reflected in our initiatives in 2015. Whether it is video on demand or IPX-enabled infrastructure, we are using our unique strengths and experience to serve Africa with innovative products and solutions." In 2015, PCCW Global also received awards and global recognition at the Global Wholesale Awards, Frost & Sullivan Awards, Global Telecom Business

Innovation Awards, Telecoms World Awards Middle East, and Total Telecom Africa Awards.

OFCOM lifts wholesale obligation on Sky Sports

BT disappointed after Sky deemed to be distributing premium sports channels widely enough to not require regulatory intervention. Ofcom on Thursday lifted the 'wholesale must



offer' (WMO) rule that requires Sky to supply Sky Sports 1 and 2 to rival TV providers at a regulated price, a decision met with consternation by BT. The U.K. telco regulator found following a consultation that Sky now offers sports channels to competitors, most notably TalkTalk and Virgin Media, without the need for any coercion on the part of Ofcom. In addition, Sky Sports is also available on Sky's Now TV streaming service, which can be accessed on rival pay TV platforms including EE TV, Apple TV and various games consoles, smartphones and tablets, Ofcom noted. "We are pleased that Ofcom has decided to remove the WMO condition. As the evidence demonstrates, we are, and have always been, more than happy to make our channels available on other platforms," said Sky, in an email to Total Telecom. Meanwhile, the sports TV market has become more competitive, thanks largely to the £2 billion investment by BT into broadcast rights for 25% of top-flight U.K. football matches and exclusive rights to the UEFA Champions League. BT is the only TV provider receiving Sky Sports 1 and 2 under the WMO rule, and the U.K. incumbent is not happy about Ofcom's decision. "BT is very disappointed," said

a spokesman for the telco, in an email to Total Telecom. "We will consider our legal options in light of this decision and, in the meantime, continue to offer our customers access to Sky Sports 1 and 2. "We still believe that effective remedies are essential to address the failure of competition in the pay TV market, in which Sky has had around 75% share of retail subscription revenues for more than 10 years," he added. Ofcom said it will continue to monitor the state of play in the pay TV market following Thursday's decision, and intervene if necessary. "In particular, Ofcom wants to be sure that consumers continue to have access to, and a choice of, packages and services containing Sky Sports 1 and 2," said Ofcom, in a statement. BT's spokesman welcomed the promise of close regulatory oversight. "Ofcom has said it is important for pay TV retailers to have access to key Sky content to be able to compete effectively in this market, and that they want consumers to have access to these channels. We therefore expect Sky to behave appropriately so that we can continue to offer our customers access," he said.

CNMC approves draft wholesale broadband measure, sends proposal to EC

Spanish telecoms regulator the Comision Nacional de los Mercados y la Competencia (CNMC) has announced the approval of a draft measure regulating the nation's wholesale broadband markets. Having analyzed the level of competition in the sector, the watchdog has identified fixed line incumbent Telefonica Espana (Movistar) as holding significant market power (SMP), and has said it will impose a number of obligations on the telco, though it noted that as competition differed by territory, obligations would be varied geographically. The CNMC identified 34 municipalities where there was competition in next generation networks (i.e. fiber optic and DOCSIS 3.0-enabled cable); in these locations at least three fiber and/or HFC networks covered 20% of the municipality's centre. The regulator said these areas represent around 26% of the population, and Movistar will not be required to open its fiber infrastructure to alternative operators,

but will be expected to provide a wholesale offering. Alongside this, the CNMC conducted a market share study, in which it identified 703 areas where Movistar accounted for less than 30% of broadband lines. The CNMC confirmed that in these 'competitive broadband areas' all wholesale obligations related to indirect access would be removed. In non-competitive areas, meanwhile, an indirect wholesale service must be offered. With regard to Spain's business broadband market, the CNMC noted that there was a lower level of competition in this sector, with Movistar having retained a significant and stable market share over time. As such, as per the regulatory proposal a wholesale bitstream offer for both copper- and fiber-based services will be required nationwide. The draft measure has now been sent to the European Commission (EC), as well as Spain's Ministry of Industry, Energy and Tourism and the Ministry of Economy and Competitiveness. These agencies have a month to make comments, which will be incorporated into the final decision by the CNMC. In separate but related news, Reuters reports that Movistar parent company Telefonica is considering halting investments in the wake of the publication of the CNMC's recommendations.

ANCOM removes wholesale broadband access obligations; Orange, Vodafone aghast

Romanian telecoms regulator ANCOM has issued a final decision withdrawing obligations previously imposed on incumbent Telekom Romania Communications in the wholesale broadband local network access market, having ruled that the PSTN operator no longer has significant market power (SMP) in the segment. Scrapping the previous SMP obligations it placed on Telekom Romania (formerly RomTelecom) in 2010, ANCOM's analysis concluded that the retail fixed internet access market has strong infrastructure-based competition and therefore determined that ex-ante regulation in the corresponding wholesale market is no longer necessary. For existing wholesale contracts, Telekom must

continue to honor obligations of transparency, non-discrimination, granting access and tariff control regarding its local loop infrastructure-based broadband services for a transitional one-year period, while accounting separation obligations will be withdrawn beginning with the financial statements for full-year 2015. Furthermore, ANCOM rejected pleas from alternative operators including Vodafone Romania and Orange Romania (chiefly mobile providers which also offer fixed services) who claimed that existing wholesale broadband access obligations should not be scrapped but rather expanded to include other large infrastructure-based players such as cableco/fiber operator RCS&RDS (the fixed broadband market leader by retail subscribers). Orange and Vodafone had criticized ANCOM for 'overlooking' RCS&RDS' dominant market share and 'overestimating' the level of competition. The regulator's decision is subject to EU competition authority approval.

Sprint becomes first US cellco to sign direct roaming agreement with ETECSA of Cuba

US mobile giant Sprint Corp has announced that it has become the first US wireless carrier to sign a direct roaming agreement and a direct long-distance interconnection contract with Empresa de Telecomunicaciones de

exponentially. We want to make sure any Sprint customer traveling to Cuba can use their phone the same way as they do in the United States'. More than three million people from around the world are expected to visit Cuba this year. Within ten years, that number is projected to grow to more than five million. As previously reported by TeleGeography's CommsUpdate, in September 2015 Sprint's fellow US cellco Verizon Wireless unveiled Cuban roaming access as part of its pay-as-you-go 'International Travel' option. However, that agreement was reliant on an indirect roaming agreement with a third-party, and Verizon did not deal with ETECSA directly.

Telefonica and Telecom Italia Sparkle announce LTE Roaming peering and A2P Messaging agreements

Telefonica Business Solutions, a provider of a wide range of integrated communication solutions for the B2B market, and Telecom Italia Sparkle, the international services arm of Telecom Italia Group, announced today LTE Roaming peering and A2P Messaging agreements. The LTE Roaming Peering Agreement will ensure interoperability between TI Sparkle and Telefonica's LTE networks and it will generate a consistent user experience of both companies' mobile operators customers' 4G subscribers when in roaming. The LTE roaming peering between Telefonica and TI Sparkle is an extension of an existing IPX peering agreement signed in 2014, which enables live traffic including voice, signaling and data roaming, as well as end-to-end QoS. This new agreement is a further addition to the global IPX ecosystem, which continues to grow as an increasing number of interconnected operators add value to their propositions with new IPX enabled solutions. Through the A2P Messaging Agreement, Telefonica and TI Sparkle will improve their service quality by connecting their A2P messaging hubs and by establishing a direct route between the two Groups' networks and at the same time provide better control on fraudulent traffic. Telefonica Business Solutions' LTE Diameter Exchange service offers an ideal solution for mobile operators requiring extensive LTE international

coverage. Built over Telefonica's IPX network, it ensures consistent delivery and high service levels, wherever and whenever needed. The network has built-in full redundancy, geographical diversity, reliability and scalability. Based on hub architecture, it combines international coverage expansion for LTE signaling traffic with invoicing, security and reporting functions. Telefonica Business Solutions' Global Enterprise Messaging (GEM) is a service for network operators that enables them to offer advance, high-volume SMS A2P messaging services to their corporate customers in a centralized and automated way through high quality routes. Through GEM, SMS can be delivered to any mobile destination in the world making it possible to implement large-scale, mass messaging services with multiple applications across diverse industries and activities, including banking and financial services, healthcare, marketing campaigns, ecommerce and entertainment. TI Sparkle's LTE™ Diameter Signaling roaming solution is the latest addition to its IPX+ multi-service portfolio with the aim to simplify global roaming complexity. Built on TI Sparkle's leading global IP network, TI Sparkle's LTE™ Diameter Signaling roaming solution provides reach, scale, and reliability for mission-critical operations and enables MNOs to fast track their roll-out of LTE™ roaming in a cost-effective and scalable manner, while creating differentiation in a highly competitive marketplace.



Cuba (ETECSA). Sprint CEO Marcelo Claure made the announcement in Havana as part of the US-Cuba Business Council (USCBC) delegation to Cuba, commenting: 'As the commercial relationship between the US and Cuba continues to progress, it is expected that the number of travelers to Cuba will increase



Cloud Computing Provides Foundation to Fight Mobile Fraud in MEA

Of the many challenges confronting the mobile industry in MEA and around the world, fraud is proving to be one of the most complex. The growing technical sophistication of criminals is leading to an arms race to see who can scale more quickly to outmaneuver the other side. Criminals are increasingly adopting techniques to help them perpetrate mobile fraud faster than ever before, and these cyber thieves are highly resourceful and able to zero in on specific technologies to perpetrate fraud in a number of ways. However, one of the newest technologies in mobile is now emerging as a particularly effective platform with which to combat fraud.

While the topic of fraud remains a sensitive one, the hard truth is that any fraud has a direct impact on a company's bottom line. Fraud can result in long-term damage to market value and public reputation, and on many levels, it exacts a high price to pay. According to the Communications Fraud Control Association's 2015 Global Fraud Loss Survey, this price will reach \$38.1 billion, which is what the global

telecommunication industry is forecast to lose, or 1.69 percent of collective earnings, as a result of fraud this year.

Yet mobile operators and enterprises face a number of challenges in taking on fraud. The number of mobile users continues to rise globally along with the range of mobile transactions that companies offer to serve them. Also, authentication processes like logging in to accounts are limited in their complexity, and thus their level of protection, to avoid consumer frustration. Finally, new mobile technologies like LTE present a host of new processes and loopholes that are vulnerable to exploitation by fraudsters.

As both mobile operators and enterprises strengthen their response to fraud, the cloud is becoming a more important tool than ever to take on this escalating threat. The quick implementation, extreme flexibility and low upfront investment that the cloud offer are well-known, but they represent just the tip of the iceberg as far as its advantages as a weapon in fighting fraud. In addition to



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those capabilities, the cloud provides a platform for several other benefits for containing fraud growth across MEA.

In particular, as mobile operators and enterprises ramp up their efforts to fight fraud, they should increasingly look to integrate cloud technology to take advantage of these three critical capabilities:

- Separate mobile strategy – Although many fraud schemes are first perpetrated on the Internet through PCs before being directed to mobile devices, it's imperative that mobile fraud be treated as a separate channel distinct from fraud on other digital channels. Mobile fraud attacks have distinct, complex characteristics that demand a specialized strategy specific to the mobile channel. A cloud-based approach enables operators and enterprises the versatility to tailor an antifraud strategy specifically for mobile.
- Predictive analysis capability – Following from the point above, in implementing a separate mobile strategy for fraud, it's essential that a strategy have a predictive analysis capability to provide a sophisticated, far-ranging approach to obtaining the best data and using it to respond to particular fraud patterns. For this reason, it's critical to have access to a cloud-based solution that can be rapidly deployed and customized, and it's critical to partner with a mobile fraud specialist that can ensure the solution can be managed expertly from the cloud.
- Global approach to organized criminal networks – Finally, because today's mobile fraud is vast, highly organized and often professionally managed by criminal rings across multiple locations and networks around the world, a successful mobile fraud strategy requires a truly global approach. It must incorporate a coordinated effort across all a company's geographic regions to ensure a comprehensive and consistent response. A cloud-based strategy is one of the few approaches that allows this to be

done efficiently and reliably.

As mobile use continues to grow in MEA, mobile fraud will in parallel become an increasing risk. A cloud-based strategy offers more cost-efficient and quickly deployable solutions that will play a crucial role in the future for an effective response capability for fraud attacks.



▼ TECHNOLOGY NEWS

TECHNOLOGY UPDATES

What IT Professionals Need to Know About the Internet of Things

The Internet of Things (IoT) promises to reshape the IT landscape, building off the advances made by cloud computing technologies to provide a truly “always connected” experience. Beyond egg minders and smart thermostats, IoT stands to transform the way people interact with a wide variety of devices, (hopefully) simplifying and improving their lives. Technology professionals need to familiarize themselves with how IoT is altering the IT landscape in order to future-proof their careers. Here are three important areas:

Device integration: Consumers and professionals alike are already overwhelmed with digital accounts and passwords, and IoT has the potential to increase that burden. IT experts should take advantage of IoT integration platforms whenever possible to simplify the end user’s experience and make the integration of devices pleasant, not overwhelming. While there’s a strong temptation to forge ahead without regard to how each connected device works together, successful IT professionals will consider the total connected experience, rather than isolated products or services.

Privacy and security: Poor password hygiene aside, security remains a major concern among all end users today. As IoT matures, IT professionals will need to account for both the vulnerabilities and privacy implications of smart devices. The number of Internet connected devices is expected to explode, reaching 50.1 billion by 2020, according to CompTIA’s white paper, Sizing up the Internet of Things. Distributed denial of service (DDoS) attacks are already common and costly, and may become much more so as the number of connected devices per person swells. As the number of IoT use cases grows, so too will the risks. With smart devices managing everything from biometrics to home and business security, professionals must possess the skills to identify and proactively address a diverse set of device weaknesses.

Analytics expertise: Many companies view IoT as a gold mine for harvesting valuable customer data, and rightly so. Within five years, the IoT industry is predicted to add \$1.9 trillion to the global economy. However, data is only as useful as its analysis. IT professionals who are able to identify trends and patterns amid the noise will be in high demand as Big Data becomes even bigger. Familiarity with non-relational database tools like Informix and MongoDB will also give a major edge to job seekers and working

professionals alike. At the same time, analytics experts shouldn't shy away from interdisciplinary experience. Understanding what kind of customer data is valuable, and how it can be used to enhance and refine IoT devices, is just as valuable as the ability to identify behavioral patterns and consumer preferences.

Even as the IT industry adapts to the ascendance of the Internet of Things, some of tomorrow's coveted skills will mirror those of yesterday's innovations. Security remains a perennial concern, and analytics continues to grow in value and scope, promising to return some of Big Data's benefits back to end users. Other issues, like device fragmentation, will present new risks and opportunities. The Internet of Things is evolving fast, and IT professionals have to commit to continuous learning in order to help their users confidently face the transition to a more connected world.

Cisco unveils software solutions for cloud-scale networking

Cisco has introduced advanced software solutions and developer tools for cloud-scale networking that will enable service providers



and web companies to enhance the performance of cloud applications and reduce the cost of managing and operating the networks that support them. Innovations to the Cisco IOS XR network operating system will deliver these benefits by enabling traditional and web service providers to converge their data centers and wide area network (WAN) architectures, by making networks more programmable, and by enabling tighter integration with popular IT configuration and management tools. Developed in collaboration with some

of the world's leading web companies, and based on their operational best practices, Cisco IOS XR innovations will make faster and simple cloud-scale networking available to all service providers, said the firm. Cisco is also announcing the availability of three additions to the industry-leading Cisco Network Convergence System (NCS) Series routing portfolio. According to the Cisco Global Cloud Index (2014-2019), released last month, total global data centre traffic is projected to triple by the end of 2019 (from 3.4 to 10.4 Zettabytes), and 83 percent of total data centre traffic will come from the cloud by 2019 (up from 61 percent in 2014). The proliferation of more business devices and machine-to-machine (M2M) connections, as well as more scalable services and applications with additional storage needs, will create new network and compute requirements, specifically a convergence of the data centre and WAN. Cisco is introducing new capabilities to the Cisco IOS XR software, enabling service providers to run their networks at half the total cost of ownership (over five years) compared to the present mode of operation, and these solutions will essentially double network efficiency and performance. Additionally, customers can leverage their investments in IOS XR and seamlessly transition to cloud-scale with their current or new hardware platforms.

Enterprise cloud services in the Middle East

A Telecom Insider Report by Pyramid Research studies the growth prospects for SaaS, IaaS and PaaS in the major markets of the Middle East. This includes the countries where adoption is the highest: Saudi Arabia, the UAE, Turkey and Israel. The Insider Report first defines cloud services and provides the technological and business context for cloud computing in enterprise environments. It then analyzes each of the seven factors that are shaping the cloud services markets in the Middle East as well as the state of cloud service readiness in the region's six main markets. Three case studies examine the cloud ecosystems as well as the prospects for cloud services in Egypt, Turkey and the UAE, with particular attention paid to the role of governments. In conclusion, the Insider provides a set of key findings,

a number of recommendations for operators, governments and other cloud service providers, and an overview of the major players and services in the market. Key findings:

- Cloud adoption in the Middle East will be affected by spending in both the public and private sectors, including by e-government initiatives to improve data management and smart city initiatives in the UAE and Saudi Arabia. In many of the region's markets, government IT expenditures account for the largest share of overall IT revenue.
- Enterprises have a number of concerns about hosted and cloud solutions. Through surveys and interviews, we have found that a key concern in the Middle East relates to the perceived loss of control over the data storage location. The majority of enterprises therefore prefer to adopt private cloud set-ups as opposed to public cloud arrangements.
- Within the cloud ecosystem, telcos have an opportunity to become a platform for the provision of IaaS and SaaS offerings, while cloud service providers need to support governments with cloud computing awareness initiatives and support the marketplace of local ISVs to develop applications relevant to the local market.

20.8 billion IoT devices to be in use by 2020

Gartner predicts spending on connected consumer products to overtake enterprise segment in five years. The number of Internet of Things (IoT) devices in use worldwide by 2020 will reach 20.8 billion, with the consumer segment dominating in terms of unit volume and spending. According to Gartner, in five years the installed base of enterprise IoT devices will reach 7.3 billion, up from 1.9 billion in 2015. This segment consists of cross-industry devices, such as light bulbs and heating, ventilation and air-conditioning (HVAC) units, and vertical-specific devices such as specialized hospital equipment, for example. By comparison, the number of consumer IoT devices in use will reach 13.5 billion by 2020, up from 3 billion this year, Gartner said. However, while the consumer segment dominates in terms of unit volume today, the enterprise market

is by far the bigger spender on IoT devices, a trend Gartner expects to continue in 2016. According to the research firm, enterprise spending will reach \$767 billion this year, growing to \$868 billion in 2016. Meanwhile, consumer spending is expected to come in at \$416 billion this year and \$546 billion in 2016. By 2020 though, Gartner expects the consumer market to overtake the enterprise market, with consumer spending reaching \$1.53 trillion compared to \$1.48 trillion for the enterprise market.

Economic Benefits of C-band Spectrum for Mobile Broadband

The use of additional C band spectrum for mobile broadband in London and Shenzhen alone will generate an additional USD440 million of economic benefit whilst protecting the continued operation of incumbent services, according to a new report from the GSMA. The study developed by Plum Consulting with analysis from the GSMA and Huawei, focuses on the impact of mobile operations in the C-band in London and Shenzhen. The report highlights an urgent need for regulators across the globe to address the allocation of spectrum required to meet the huge growth in mobile data traffic, especially in densely populated urban areas. C-band spectrum can provide large contiguous channels that support the delivery of high data rate services such as video. Mobile data traffic continues to grow rapidly around the world. According to Ofcom, monthly usage per active connection in the UK has risen by 50 per cent every year for the past three years and was over 0.5 gigabytes by June 2014. This puts a conservative estimate of total data traffic in London at 7 petabytes per month. Over the next 15 years, Plum expects average annual growth in mobile data traffic in London to be 35 per cent and this is expected to grow at a similar rate in Shenzhen up to 2030. The report shows that use of C-band spectrum for mobile broadband can be achieved through the development of sharing techniques to allow mobile services to co-exist with other users of the band, such as satellite and fixed link services. Plum's study and other independent studies³ show that C-band small cells can successfully co-exist with

satellite services, provided that an exclusion zone of a 5-kilometre radius is established around the satellite installations. Similar provisions can be made to ensure the protection of continued operation of fixed link and point to multipoint services that use the band. "Administrations around the world should make available larger amounts of contiguous spectrum to meet the demand for high speed connectivity in more densely populated environments. C-Band discussions during the WRC-15 offer a unique opportunity which should not be missed," said David Wang, President, Huawei Wireless Networks. "This joint report highlights the substantial social and economic benefits associated with mobile broadband use of the C-Band on a shared basis with existing services." "C-band spectrum will better enable operators to provide consumers with high-speed mobile broadband in city centers," said Alasdair Grant, Head of Asia, GSMA. "We urge governments to seize the opportunity at WRC-15 and allocate this critical spectrum to safeguard the future of the mobile internet and deliver its undoubted benefits to citizens worldwide."

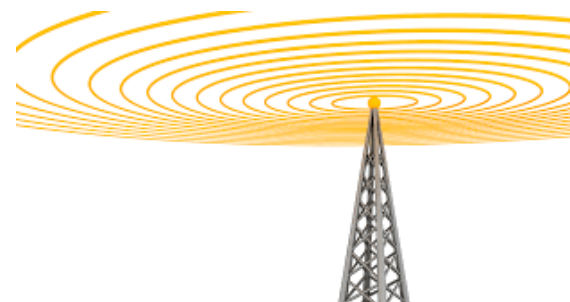
Huawei Completes Multi-vendor Wireless Transport SDN Proof of Concept

Huawei has announced completion of the industry's first multi vendor Wireless Transport SDN Proof of Concept (PoC) with the Open Networking Foundation (ONF), a nonprofit organization dedicated to accelerating adoption of open Software Defined Networking (SDN). The PoC, held from October 7th to 9th in Madrid, was hosted by Telefonica and IMDEA Networks Institute. Another four wireless transport vendors and one router vendor also joined in the PoC. The goal of the PoC was to encourage the development, testing, and implementation of open SDN for wireless transport as well as demonstrate multi-layer optimization on an open SDN infrastructure by using the Open Networking Operating System (ONOS) open source SDN controller. Two demonstration cases were tested, which included capacity-driven air interface and flow-based shaping. The capacity-driven use

case demonstrates a network's ability to adapt to traffic demand and to efficiently optimize wireless resources for a more energy efficient operation of the transport network. The flow-based shaping use case demonstrates the network's ability to adapt and respond to changing conditions such as the weather impacting wireless transport networks. Huawei used SDN based RTN900 microwave equipment with OpenFlow interface for the PoC. This first appearance of SDN based RTN900 not only shows Huawei's ability to innovate, but also highlights the company's strategy of promoting new technologies to industry. For Huawei, the PoC shows the company's commitment to development with SDN technology, seeking to add value for customers and promote SDN industrial development with ONF.

Using FM to Improve Wireless Networks

One minute your wireless Internet is working fine. The next minute, it takes an infuriatingly slow five seconds to load a single Web page. You paid for the fastest Internet speed available but during these all too frequent



times, it seems like the connection barely works at all. "Most people think it's a mystery," said Aleksandar Kuzmanovic, associate professor of electrical engineering and computer science at Northwestern University's McCormick School of Engineering. "They get upset at their routers. But what's really happening is that your neighbor is watching Netflix." Most people don't realize how much their neighbors' Internet networks interfere with their own, heavily affecting speed and performance. Unless a home is located in the middle of nowhere, it is likely that neighboring homes' Wi-Fi networks will bump into each other and prevent data from getting through. This is particularly true in large, urban apartment buildings

where many people reside within a smaller area. Kuzmanovic and his PhD students Marcel Flores and Uri Klarman have found that problems caused by competing networks can be mitigated by using an already-existing, extremely cheap medium: FM radio. Flores will present this work Tuesday, November 10 at the 23rd annual IEEE International Conference on Network Protocols in San Francisco. "Our wireless networks are completely separate from each other," said Flores, the lead author of the study. "They don't have any way to talk to each other even though they are all approximately in the same place. We tried to think about ways in which devices in the same place could implicitly communicate. FM is everywhere." Called "Wi-FM," the team's technique enables existing wireless networks to communicate through ambient FM radio signals. The team agreed that using FM was attractive for several reasons. For one, most smartphones and mobile devices are already manufactured with an FM chip hidden inside. FM is also able to pass through walls and buildings without being obstructed, so it's very reliable. Minor upgrades to software would allow devices to take advantage of Wi-FM. Using Wi-FM prevents a person's network data from fighting with his or her neighbor's data. When network data are sent at the same time, they bump into each other. Then both data packets back off and stop moving toward their destinations. This is what causes those unexpectedly slow Internet speeds. Wi-FM works by allowing the device to "listen" to the network and select the quietest time slots according to FM radio signals. "It will listen and send data when the network is quietest," Flores said. "It can send its data right away without running into someone else or spending any time backing off. That's where the penalty happens that wastes the most time." This is a problem that Klarman knows all too well. Living in a large, urban apartment building with more than 30 different networks, he regularly experiences slow Internet speeds. "Even if I configure my Internet to choose a channel that is least likely to overlap with my neighbors, the problem cannot be avoided," Klarman said. "You can't find a quiet channel when there are 30 other networks in the same building. My speed is 10 percent of what it should be." Wi-FM identifies the usage patterns of other networks in order to detect times with

lightest and heaviest traffic, helping to harmonize Wi-Fi signals that are transmitting on the same channel. And it can adapt as those patterns change with very little effort. "Our system can solve these problems without involving real people," Kuzmanovic said. "Because are you going to knock on 30 doors to coordinate your wireless network with your neighbors? That is a huge management problem that we are able to bypass."

SK Telecom and Nokia Networks Achieve 19.1Gbps in 5G Trial

SK Telecom and Nokia Networks together demonstrated Nokia Networks' cmWave technology. In a joint 5G trial in South Korea, the two companies achieved 19.1 Gbps transmission speed over the air using 256 quadrature amplitude modulation (QAM), 8x8 Multiple-Input Multiple-Output (MIMO) transmission and 400 MHz of bandwidth. Alex Jinsung Choi, Chief Technology Officer, SK Telecom, said: "With the world's first demonstration of the cmWave technology, we have reached a significant milestone towards realizing 5G. The 19.1Gbps transmission speed



we achieved almost meets one of the key capabilities of 5G defined by the ITU-R. SK Telecom will continue to work closely with Nokia Networks to maintain this momentum towards creating a new era of communications."

Huawei, Bitreactive and Eurotech Join OSGi Alliance

Huawei, Bitreactive and Eurotech have joined the OSGi Alliance, President Dan Bandera announced.

The new members joined during the formation of the alliance's new Internet of Things Expert Group. "We welcome Huawei as a strategic member and Bitreactive and Eurotech as contributing associate members," Bandera said. "We are excited that our proven technology pairs so naturally with these organizations' and other OSGi adopter strategies, as well as the buildout of the Internet of Things." The OSGi Alliance launched the IoT expert group in September to create modular and dynamic software specifications to meet the end-to-end connectivity, lifecycle management, web applications and server platform requirements of IoT providers. Alliance members can provide requirements and contribute to specifications and reference implementations. The public can also raise requirements using the OSGi bugzilla system, referencing RFP 174.

Ericsson and SK Telecom Demonstrate 5G Network Slicing Technology

Ericsson and SK Telecom announced a successful demonstration of 5G network slicing technology. Held at SK Telecom's corporate R&D center in Bundang, South Korea, the demonstration featured the creation of virtual network slices optimized for services including super multi-view and augmented reality/virtual reality, massive Internet of Things offerings and enterprise solutions. With network slicing, a single physical network can be partitioned into multiple virtual networks to offer optimal support for different types of services for different types of customer segments. By using logical instead of physical resources, it enables operators to provide networks on an as-a-service basis, which enhances operational efficiency while reducing time-to-market for new services. As a result, network slicing is currently drawing attention from global operators, equipment vendors and software solution providers, along with standardization bodies such as 3GPP and ITU, as a practical solution for supporting 5G use cases in a reliable

and efficient manner. The instantiation of the network slicing is using the NFV based Ericsson Virtual Evolved Packet Core (EPC) solution. Alex Jinsung Choi, Chief Technology Officer, SK Telecom, says: "Network slicing is one of the key enabling technologies for SK Telecom's all-IT-based 5G architecture, and this successful demonstration is a significant step toward achieving the world's first commercialization/deployment of 5G network systems." The network slicing demonstration represents a milestone for the memorandum of understanding (MoU) announced by Ericsson and SK Telecom in July 2015. Under the terms of the MoU, the two companies will develop and deploy network slicing technology optimized for 5G services, build a joint 5G test bed and provide the world's first 5G pilot services. Ericsson and SK Telecom also plan to build the world's first hyperscale datacenter for 5G based on Ericsson's HDS 8000. Launched at Mobile World Congress in February 2015, this solution represents a new generation of hyperscale datacenter systems that uses Intel Rack Scale Architecture for a disaggregated hardware approach that improves efficiency, utilization, automation and total cost of ownership for both IT and telecom workloads.

Sophisticated monetization of IoT could be worth \$1.3 trillion

Growing number of connected devices will bring increasingly diverse applications and charging models, analyst firm predicts. Service providers in the Internet of Things (IoT) space

could collectively generate as much as US\$1.3 trillion over the next 10 years by employing more complex charging models, according to new research published this week. The prediction came from IoT specialist consultancy Machina Research, whose forecasts show that a sizeable – and growing – proportion of the revenue associated with IoT requires more sophisticated monetization. The diversity of IoT applications means that multi-sided, sponsored and ad-funded business models, usage-based billing for non-traditional services, multi-tenancy billing, real-time adjustable pricing, and many other mechanisms will all play a part in the future of the industry, the analyst firm said in a paper published this week in partnership with billing software provider Redknee. "In many ways the beauty of the IoT is the way in which it permits and encourages new emerging business models," said Machina Research CEO Matt Hatton. "To be successful in IoT everyone will need to understand how to monetise this new massive opportunity," he added. The platforms service providers use in the IoT space must be scalable, open, real-time, flexible, transparent and secure, agile, and built with the diverse requirements of the IoT in mind, Machina Research said.

Huawei Emerges As 2nd Largest Android Brand in EU's Big Five

The latest smartphone sales data from Kantar Worldpanel ComTech for the third quarter of 2015 confirms the trend seen over the previous two months, with Android gaining market share in the U.S. while losing ground in Europe's big five markets. Europe's big five markets include Great Britain, Germany, France, Italy, and Spain. "Thanks to an increase in marketing focus and the weakening of brands such as Sony, HTC, and Motorola, Huawei was able to rise to second place among Android brands in Europe from sixth place in 2014," reported Carolina Milanesi, chief of research at Kantar Worldpanel

ComTech. "With a wider portfolio of products ranging from the high-end all the way to the low-end, Huawei made particular inroads in Spain and Italy." "In Great Britain, iOS held the strongest share ever recorded in a September quarter since we began tracking this market," said Dominic Sunnebo, business unit director at Kantar Worldpanel ComTech Europe. "In the Android camp, Korean manufacturers Samsung and LG were the only brands growing share during the quarter. Samsung now represents 53% of all Great Britain Android sales compared to 50% for the same time a year ago, while LG grew from 6% to 9%. These gains, however, were not enough to compensate for other Android-based manufacturers losses, leaving the OS to record yet another year-on-year decline." "In the U.S., it was too early for the iPhone 6s and 6s Plus to make much of an impact on overall share, as they were only available for the last few days of the quarter. Early sales are certainly positive, however, with the new models having made up 11% of overall quarterly iPhone sales despite such a short availability window." Milanesi added. "It is also interesting to note that iPhone sales through the Apple Store almost doubled compared to 3Q14, registering 7.9% in the third quarter of 2015, up from 7.7% in the three months ending in August. While it is too early to link this to the new iPhone Upgrade Program, the trend is certainly worth watching." "In urban China, with a market share that grew 72% over the third quarter of 2014, Huawei remained the top brand followed by Xiaomi and Apple," Tamsin Timpson, strategic insight director at Kantar Worldpanel ComTech Asia, commented. "iOS continued to grow year over year with 56% of iPhone buyers during the quarter switching from Android and with iPhone 6 and 6Plus retaining their positions as the best selling and second best-selling smartphones. "Next month all eyes will be on Apple's performance in the U.S. and China, as many observers continue to doubt the size of the remaining opportunity for Apple," Milanesi explained. "Twenty-eight percent of consumers in China who own smartphones plan to upgrade in the next 12 months. Among them, 79% of those who own iPhones, and 25% of those who own Android devices, say they prefer Apple."



ITU Assembly Endorses Process for Development of 5G Mobile Systems

The Radiocommunication Assembly has endorsed a Resolution that establishes the roadmap for the development of 5G mobile and the term that will apply to it "IMT 2020". The overall "Vision" for 5G systems, along with the goals, process and timeline for its development, is now in place. The detailed technical



performance requirements for the radio systems to support 5G will be developed, in close collaboration with industry and national and regional standards organizations, following the stringent timelines defined by ITU. "The new ITU-R Resolution sets the stage for the future development of 5G mobile technologies," said ITU Secretary-General Houlin Zhao. "The vision for IMT-2020 and beyond opens the doors to innovation that will determine how we communicate in the future, meeting the trend towards high data traffic in the Age of the Internet of Things," said François Rancy, Director of the ITU Radiocommunication Bureau. Mobile communication has seen revolutionary developments and growth in recent years. New demands, including applications requiring very high data rate communications, many more devices with diverse service requirements, better quality of user experience (QoE) and better affordability, will require an increasing number of innovative solutions. Low latency and high reliability communication, eliciting instantaneous response at a single click, is perceived as an enabler for the future development of new applications in healthcare, safety, business, entertainment, and

other sectors. Future wireless systems envisage machine-to-machine (M2M) communication and the Internet of Things with applications for enhanced mobile cloud services, emergency and disaster response, real-time traffic control optimization and driverless cars using vehicle-to-vehicle and vehicle-to-road infrastructure communication, along with efficient industrial communications and smart grids. The new 5G specifications will facilitate not only infotainment applications in shopping malls and at large public gatherings, where a large number of handsets and devices could be in use concurrently in a high data traffic situation, but also support professional use among the police, fire brigade and ambulance services using public communication networks. User devices will have enhanced media consumption capabilities, such as Ultra-High Definition displays, mobile 3D projections, immersive video conferencing, and augmented and mixed reality displays and interfaces. Recognizing that a connected society in the years beyond 2020 will need to accommodate a similar user experience for end-users regardless of whether they are on the move or stationary, the new 5G standards aim at maintaining high quality service at high mobility, enabling the successful deployment of applications on a moving platform, such as in cars or high-speed trains.



Pay-TV providers in MEA and middle-income Asia can learn from Apple, Astro on the Go and Shahid.net

“OTT video is appealing to new demographics in MEA and Asia because families do not congregate around the TV set in the same way as they do in Europe or the USA.”

The demand for paid-for video services in the Middle East and North Africa (MENA) and emerging Asia-Pacific (EMAP) countries such as Malaysia and Indonesia is not the same as in Europe and the USA – the latest results from our Connected Consumer Survey reveal that OTT video is much more likely to be used as a primary pay-TV service in these regions than in the West. This comment investigates usage of paid-for video services in Asia-Pacific (APAC) and the Middle East and Africa (MEA), and outlines options that established and aspiring pay-TV providers must consider.

OTT video is gaining momentum in EMAP and MENA, despite assumptions that consumers do not want premium video content

An analyst colleague was recently talking

with a client from the MENA region. The client explained that “the image of a family sitting around a TV set together does not exist here – that’s why pay TV does not work.” Household penetration of pay-TV services in the region is low – approaching 20%. Free satellite channels, and illegal content distribution, have limited the growth of paid-for services in Asia and MENA. However, take-up of OTT video services has increased, which indicates that demand for premium content exists and is being met by paid-for services. Figure 1 indicates the penetration of pay-TV and OTT video services in selected countries. OTT video penetration among these countries is on average half that of pay TV.

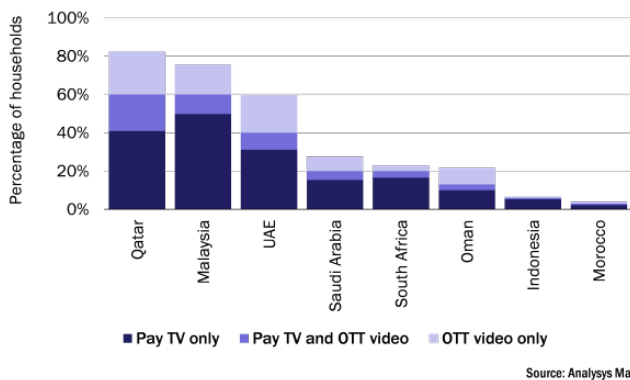
“OTT video is appealing to new demographics in MEA and Asia because families do not congregate around the TV set in the same way as they do in Europe or the USA.”

Many people are adopting OTT video services as a primary service without having subscribed to pay TV; just 40%



Martin Scott
Principal Analyst
Analysys Mason

Figure 1: Approximate penetration of pay-TV and paid-for OTT video services in selected countries¹



Source: Analysys Mason

of paid-for OTT-video-using respondents in MEA and Asia also subscribed to a pay-TV service, compared to 69% for European and US respondents. OTT's success in these regions indicates that customers of traditional services were probably lacking one of the following – appropriate content, quality of experience, or choice. Price is not necessarily a primary barrier to take-up, because entry-level packages are affordable. However, new pricing models (such as 'freemium') may still further address affordability.

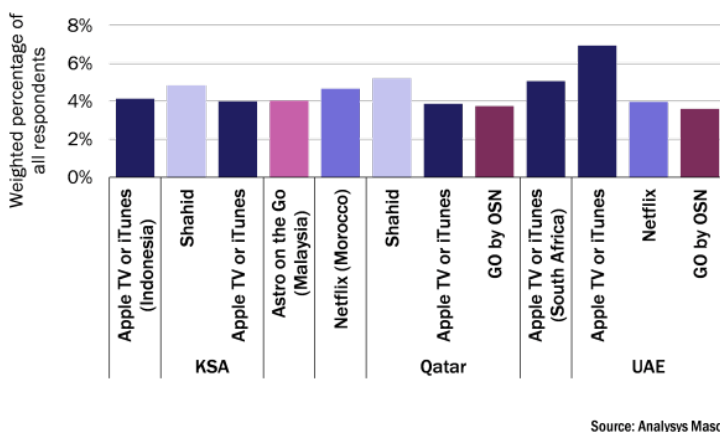
Apple, Astro and Shahid.net have succeeded due to pricing, polish and premium content – all have replicable elements.

Figure 2 shows the penetration of selected popular OTT video providers among respondents to our mid-2015 Connected Consumer Survey.

Three companies, in particular, stand out.

- Apple has a polished look-and-feel to its user interface (UI) and devices that, along with premium English-language content, enables it to target the large ex-patriate community in MENA. No service provider can replicate Apple's business model, but inferior web portals have previously let down video services.
- Astro on the Go is the online video portal of Malaysian pay-TV provider Astro. The service was launched in 2012 as a multi-screen app for Astro subscribers, but has evolved into a freemium platform streaming live and on-demand content, available to both its traditional customer base and to new subscribers. Astro's key asset is live sports rights – users gained access to the Rugby World Cup as well as British Premier League football.
- Shahid.net, part of MBC, has successfully built its presence in MENA by offering a wealth of free content alongside premium and on-demand material. The web interface is similar to that of US provider Hulu and easy to use. Simplicity and a strong Arabic content base stimulate demand for the platform. Few operators have the scale of Shahid.net and can afford to offer so much content for free, but offering some free content to draw in customers to paid-for services is important.

Figure 2: Penetration of paid-for OTT video services, by operator and country²



Source: Analysys Mason

Pay-TV providers control some of the levers of customer demand

OTT video is appealing to new demographics in MEA and Asia precisely because families do not necessarily congregate around the TV set in the same way as in Europe or the USA: OTT video tends to be delivered to devices used by individuals and it is therefore important that pay-TV providers aiming to appeal to new audiences are versatile. Many operators have already launched multi-screen services, but the following recommendations still apply.

- **It helps to look more like an OTT provider.** Providing a compelling and stable multi-screen service and opening up this content on a freemium basis to non-subscribers, as Astro has, increases traction. As the success of Apple indicates, a polished look and feel helps. Operators such as Telstra in Australia have tackled this problem by partnering with manufacturer

Roku to offer low-price set-top-boxes (STBs) that integrate their own services alongside those of popular OTT providers – this approach may be particularly applicable if partnering with OTT providers as, say, du and Vodafone are in MENA.

- **Further sources of premium content can be tapped.** Further popular material beyond Hollywood blockbusters can be bundled into a pay-TV proposition. Singaporean OTT provider Viki offers Asian content with crowd-sourced subtitles. The service uses an advertisement-based freemium model; pay-TV providers could consider a deal with such a player to offer the advertisement-free service to customers.
- **Entry-level pricing should not be overlooked.** Despite low pay-TV prices in APAC and MEA, there may be further room for pricing innovation. Advertising-supported models may be worth further investigation. Even if a full freemium model is not affordable, offering some content for free, to demonstrate value, is important.

¹ This model is based on traditional pay-TV penetration in these countries; the OTT video figures are derived from the proportion of respondents in our survey that had pay-TV only, pay-TV and OTT video, or OTT video only. Applying these ratios to known pay-TV numbers allows us to counter some of the panel bias in our affluent survey sample.

² It is worth noting that Netflix can only be accessed illegally from Morocco and UAE.



Cloud gaming is gaining traction in 2015: operators need to plan their market entry carefully

Cloud gaming services are being trialed or bundled alongside high-speed fixed broadband services by an increasing number of fixed operators. Cloud gaming platforms enable users to play video games on devices such as TV sets, tablets or handsets by connecting to a remote (cloud) server that runs the game in real-time. The technology has existed for several years, but the ecosystem is only now reaching maturity due to software technology improvements. For example, European cable operator Liberty Global announced a partnership with TransGaming, a Canadian cloud gaming provider, in February 2015. The partnership will enable TransGaming to make its GameTree on-demand games platform available to subscribers that use the Horizon set-top boxes (STBs) from Liberty Global. This comment provides an overview of recent market developments in cloud gaming propositions.

Liberty Global's inclusion of GameTree will appeal to casual gamers, increasing client engagement and reducing churn

The GameTree app currently provides access to 50 games – ranging from poker to successful independent game titles – for a flat fee of EUR4.99 (USD5.33) per month. It has a multi-screen interface that enables customers to use their handheld devices (such as smartphones) as additional screens and controllers, a feature that is consistent with the Horizon STB multi-screen interface. UPC will be able to offer its Horizon customers access to the GameTree service through their Horizon STBs, and we assume that subscription fees will be applied through direct carrier billing, as they are for Iliad's partnership with the company in France. The inclusion of GameTree in UPC's bundles offers a more extensive client proposition, which could potentially increase engagement and therefore reduce churn.



Aris Xylouris
Research Analyst
Analysys Mason

Operators are a key part of the cloud gaming value chain because the success of the service is dependent on high-speed and low-latency connectivity. Platform providers regard operators as major distribution channels, leading to several partnerships over the past few years. GameTree's platform is available over a number of providers' networks worldwide, including airtel India (India), DIRECTV (North America) and Iliad (France). Iliad launched both GameTree and Gameloft services in 2011 in response to SFR's cloud gaming service, Jeux à la Demande, which was launched in partnership with G-cluster Global in 2010.

Major players in the gaming industry are set to change the market landscape in 2015, and are open to operator partnerships

Console manufacturers' sales figures have fallen below forecasted levels in many places worldwide in 2014, and therefore more firms in the gaming industry are developing cloud gaming platforms. SQUARE ENIX, a leading game developer firm based in Japan, is developing a cloud gaming platform named Shinra that will provide high-specification commercial titles to users over the cloud. Shinra's beta testing began in Japan in January 2015 over Nippon Telegraph and Telecom East's (NTT East's) network and will end in the second quarter of 2015, when it will enter similar trials in the USA.

Shinra's potential entry in the US market might trigger the growth of cloud gaming in the country. Other players in the market include NVIDIA and Sony, both of which have launched cloud gaming platforms. US operators have also expressed their interest in entering the market. For example, in 2012 Verizon launched Ubitus' GameNow Cloud Gaming service, which enables multi-screen gaming exclusively on its LTE network. Comcast is also said to be close to an agreement with the largest game publisher firm, Electronic Arts (EA), to launch its services over Comcast's X1 cable STB. Comcast has the largest cable network in the country and this potential agreement with EA could make the firm a one-stop solution for all the gaming needs of its subscribers.

Operators need to plan their entry into the market carefully

Traditional considerations such as quality of experience, exclusivity and infrastructure integration are important, but operators aiming to launch cloud gaming services should also consider the following areas.

- **Decide which services to offer.** There are three main options for operators that want to enter this market: to deploy their own platform, to bundle or integrate another platform's services, or to offer discounted access to others' platforms. An operator may be able to target the mass-market segment and enhance its brand name by deploying a platform, but this requires devoting significant resources. Operators aiming to increase broadband and multi-play service take-up could bundle a platform's services in their offers. For example, Grupa Kapitałowa Vectra (Poland) offers access to Sony's Playstation Plus services to customers that sign up for a 2-year contract for 100–150Mbps Internet

packages. This type of bundle gives users that are interested in games an incentive to purchase superfast broadband services.

- **Decide which subscriber segment to target and whether the addressable market is large enough.** Most operators market their services to casual and social gamers, such as young adults or families who play together as a social activity. This is because the 'hardcore gamer' segment is a highly penetrated niche. Any decision should ultimately be driven by an operator's core target demographics. It is worth noting that the addressable market for such

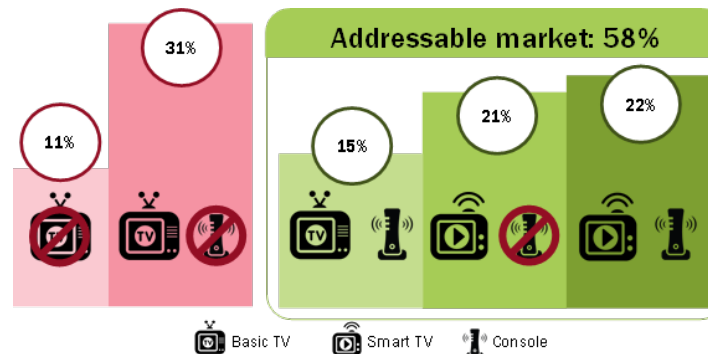


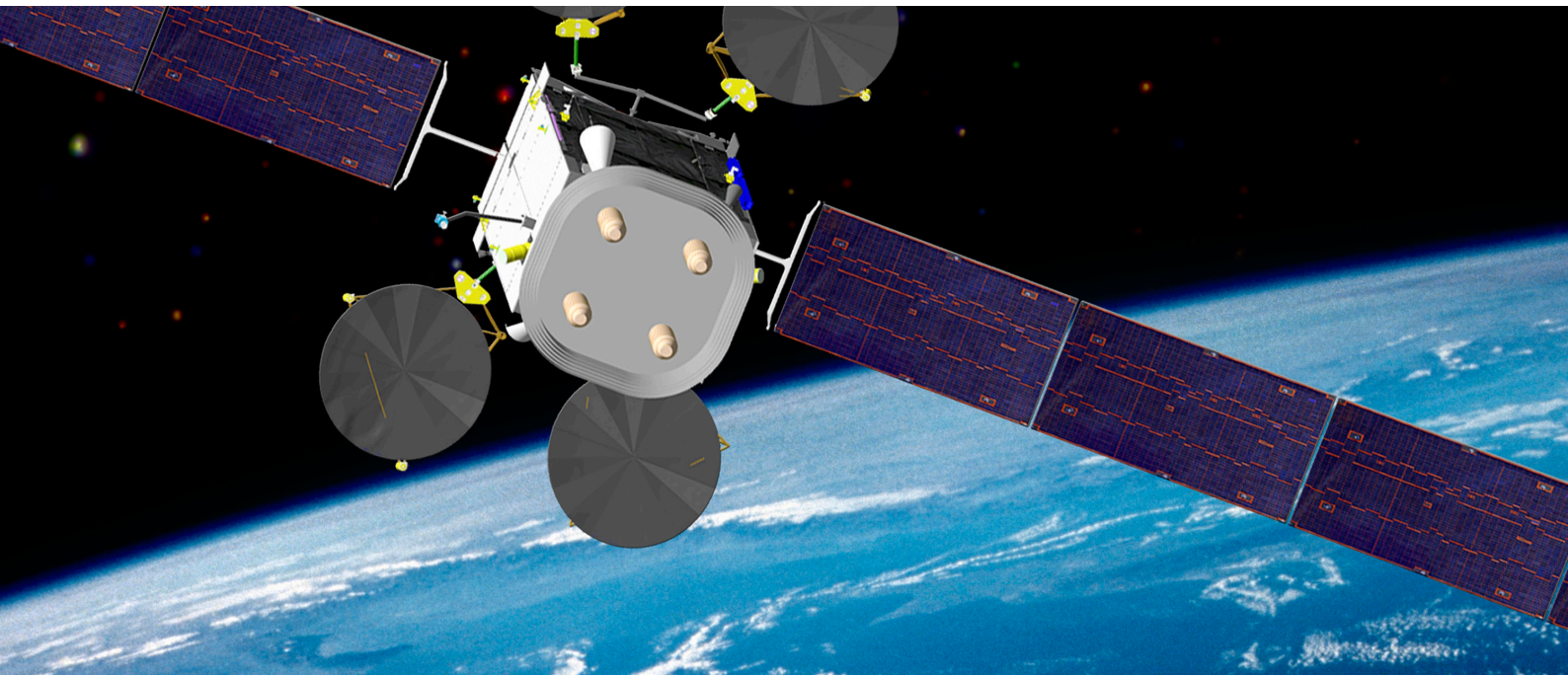
Figure 1: Addressable market for cloud gaming offers based on TV and console ownership, Europe and the USA, 2015 [Source: Analysys Mason's Connected Consumer Survey, 2015]

services is increasing as the number of smart TVs increase. According to our recent Connected Consumer Survey, 58% of respondents had either a smart TV set or a games console (see Figure 1), and therefore constitutes the addressable market for on-TV cloud gaming.

- **Carefully choose partners.** Firms such as TransGaming offer their services directly to consumers, to CE manufacturers (such as LG Electronics) and to pay-TV platform developers (such as ActiveVideo, with its CloudTV software platform). The widespread availability of these services through multiple channels minimises opportunities for differentiation. However, TransGaming's larger scale may bring some extra brand benefits and cheaper prices, as it has done for Spotify, which is bundled with operators' other services. White-label offers may also be a consideration for operators that prefer to use their own branding. Close collaboration with cloud-gaming providers will be important if operators want to have a greater influence over the choice of games offered in the future.

- **Decide how to price and market these services.** A subscription-based approach is the key to generating ongoing revenue because prices physical game copies are declining rapidly. Operators can offer trials of each game for a limited time (for example, 1 hour), which will allow consumers to evaluate the game before making a purchase, while attracting extra publicity for the service.

¹ See Analysys Mason's Survey Connected Consumer Survey 2015. This survey was conducted between July and August 2014.



▼ SATELLITE NEWS

SATELLITE UPDATES

Intelsat Relocates Horizons 2 Satellite for New DTH Platform in Thailand

Intelsat announced Nov. 19 it has moved the Horizons 2 satellite to a new orbital position at 85 degrees east to launch a new Free-to-Air (FTA) Direct-to-Home (DTH) platform in Thailand. The satellite will support Next Step, a content provider turned platform operator, with launching its new Freeview HD platform, which is positioned to serve an addressable market of approximately 67 million people. Next Step has a multiyear agreement to use Ku-band capacity on Horizons 2. Intelsat expects the DTH market in Thailand to grow by more than 2.5 million new subscribers in the next 10 years. The company launched Horizons 2 in 2007 in partnership with Sky Perfect JSAT for coverage over the United States, and previously relocated the satellite to cover Russia in 2012.

Hera Systems Announces New EO Constellation Launching in 2016

Starting with nine satellites and later scaling up to 48, San Jose, Calif.-based Hera Systems revealed its intentions to launch a constellation of high-resolution Earth Observation (EO) satellites

starting in October 2016. The company recently completed its Series A round of investment funding, with Firsthand Capital as the lead investor. Hera Systems used the funding to fabricate a mockup satellite that demonstrates its technology, purchase components for the construction of the initial satellites, and make commitments to launch opportunities. The startup's spacecraft passed their Preliminary Design Review (PDR) late last month. Hera Systems' satellites are designed to capture one-meter and higher resolution imagery and video of any location, coupled with analytics and derived information accessible through mobile applications. The initial nine-satellite constellation, featuring sun-synchronous and inclined orbit capabilities will enable coverage of the entire globe at varying times during the day. The full 48-satellite constellation is expected to provide near-hourly updates.

Eutelsat Teams with Camusat on Turnkey Solutions for African MNOs

Eutelsat has partnered with telecom infrastructure specialist Camusat to spur on better turnkey connectivity solutions for mobile operators in Sub-Saharan

Africa. Using satellite, Eutelsat can deliver coverage of all African territories while Camusat leverages its expertise in telecom infrastructure deployment, including building, providing electrical power, and maintaining towers for mobile telephony networks via more than 1,000 employees in the African continent. The agreement is anticipated to drive growth of mobile communications that have dramatically expanded in sub-Saharan Africa but are still underdeveloped in remote rural areas where more than half of Africa's population lives. "This partnership marks a new step in our collaboration with Africa's mobile telephony operators. In addition to regular lease of satellite capacity to support network development, our new partnership with Camusat equips us to offer solutions covering the entire communication chain with maximum flexibility and irrespective of location," said Michel Azibert, commercial and development director at Eutelsat.

XipLink Successfully Demos LTE Using Satellite

Wireless link optimization specialist XipLink has completed a test with a significant Asian cellular service provider, delivering accelerated voice, data and video traffic exceeding 90 megabits per second (Mbps) to a remote LTE base station over a satellite connection. Jack Waters, CEO of XipLink, told Via Satellite the test always achieved 100 Mbps or more on a 97 Mbps link (90 Mbps downstream, 7 Mbps upstream), and that the actual throughput in this test was 155 Mbps. The demonstration showed XipLink's high speed Transmission Control Protocol (TCP) acceleration capability, and used several optimization features. The company's streaming compression technology reduced text traffic from 90 Mbps to 14 Mbps, an 84 percent decrease, and its XipLink Real-Time (XRT) feature reduced the bandwidth of voice traffic 40 percent using header compression. The test also achieved a 90 percent gain in packet per second throughput rates using coalescing techniques. Through XipLink's satellite-centric flow control, packet loss was also reduced to 0.1 percent, which has the effect of higher throughput on the link due to no retransmissions. The Asian cellular service provider is an existing XipLink account that has traditionally used

XipOS for Wi-Fi aggregation and backhaul with excellent results. The addition of GTP tunnel acceleration to XipOS was required to meet LTE standards for transmitting cellular TCP traffic over the S1 link while also optimizing non-TCP traffic such as User Datagram Protocol (UDP).

30 Satellite Landmapper Constellation Preps for Near Term Launch

Two Silicon Valley companies, Aquila Space and Astro Digital, are readying for the launch of a two-part, 30-satellite Earth observation constellation next year. The companies are designing a constellation known as Landmapper, comprised of 10 Broad Coverage (BC) satellites and 20 High Definition (HD) satellites to increase the supply of imagery available to customers that are currently users of Landsat data. The Aquila Space-Astro Digital project is based on the exact spectral properties of Landsat, the joint NASA-United States Geological Survey (USGS) satellite program. But whereas Landsat collects fresh 30-meter imagery every 16 days, Landmapper will be sharper and as partners, Astro Digital is actively preparing for the massive amount of data anticipated from Landmapper. Aquila Space is building the small satellites, the first three of which are already slated for a Soyuz launch in the first half of 2016. The two companies plan to kick off services immediately once the first satellites are in orbit, which they started by planning the satellite design and the software in tandem. "There's a growing number of companies building applications and tools to make the management of farms more intelligent and put information at the fingertips of farmers, economists, seed companies, and consultants," Bronwyn Agrios, head of product at Astro Digital, told Via Satellite. "Tying remote sensing data into that is an area where we are seeing a lot of traction, even with Landsat at a 16-day refresh. Early customers are already quite diverse, according to Chris Bidby, CEO of Aquila Space. He said Landmapper has a mix of more traditional users, along with newer data aggregators. Agrios said agricultural intelligence, such as understanding central yield for the entire United States corn belt, or the output of agricultural areas in Brazil, Europe, and elsewhere, is valuable

data. Thus, agriculture is a big focus of Landmapper, which is designed to cover 40 million square kilometers of land per day with its BC satellites. HD spacecraft will cover 9 million square kilometers.

EUTELSAT recognized in Broadcast Pro Middle East Awards as Satellite Operator of the Year

The Arab States Broadcasting Union (ASBU) has recognized global satellite operator Eutelsat as a driving force behind the massive expansion in the number of television channels available to homes throughout the Middle East and North Africa region. Eutelsat was named Satellite Operator of the Year at the ASBU Broadcast Pro Middle East awards earlier this week. This follows the successful launch and deployment last month of the EUTELSAT 8 West B satellite which is already leased at full capacity to broadcasters. Ali Korur, CEO of Eutelsat's Middle East affiliate, said: "This award is particularly gratifying as it is testament to our commitment and long-term vision, together with our partners at Nilesat, to the growth and maturity of broadcasting in the Middle East and North Africa." "Over nearly 20 years, together we have built the premium video neighborhood for broadcasting services at 7/8 degrees West and attracted more than 1,000 television channels. The result is that over 52 million homes, representing 200 million viewers, only require one small satellite dish to receive all their entertainment from movies to sport, and news to comedy." Eutelsat's latest broadcast satellite, part of an overall investment of over US \$1 billion over the last five years, is further proof of Eutelsat's long-term belief in the growth of the regional market. Broadcasters benefit from increased power, more coverage options, higher in-orbit security and industry-leading signal resilience.

Broadcasting Authority of Zimbabwe Taps Eutelsat to Boost Digital Transition

Eutelsat has sealed a three-year contract with the Broadcasting Authority of Zimbabwe (BAZ) for

Ku-band capacity on the Eutelsat 3B satellite. The capacity will be used to deliver 12 free-to-view channels to a nationwide network of 48 Digital Terrestrial Television (DTT) transmitters. The agreement between BAZ and Eutelsat will accelerate digital transition of Zimbabwe's national broadcasting network, which started in 2011, and reflects the general move across Africa to a fully digital environment. The new service is currently being tested and is due to launch during the first quarter of 2016. BAZ is managing the project with partners Transmedia, the country's national signal carrier, ZBC, the state broadcaster, and Huawei for sourcing of digital equipment, including Set-Top-Boxes (STBs) for user homes. Huawei will also uplink the digital multiplex from BAZ's teleport facilities in Harare to the Eutelsat 3B satellite. "Access to Eutelsat 3B will transform our country into a nationwide provider of digital broadcast services. With this Eutelsat partnership and our project partners, the stage is set for Zimbabwe to accelerate the transition from analogue to digital TV in order to deliver improved service to viewers nationwide," said Obert Muganyura, CEO of the Broadcasting Authority of Zimbabwe.

VVA Disputes Veracity of GSMA-Commissioned C-band Studies

Analysts from VVA are disputing studies on the benefits of allocating C-band for use by the mobile industry that the GSM Association (GSMA) commissioned ahead of the 2015 World Radiocommunications Conference. The reports by Plum Consulting and Frontier Economics, posit that there would be substantial economic benefits in opening up certain amounts of C-band, used today by the satellite industry, for players in the International Mobile Telecommunications (IMT) industry. WRC-15 started Nov. 2 and continues through Nov. 27. C-band spectrum, which stretches from 3400 MHz to 4200 MHz, is one of many topics being discussed and evaluated with potential for revisions that could shape the future of the telecommunications industry. According to VVA, the GSMA studies, which could have a direct influence on policy makers, provide an incomplete assessment

of the impact reallocating C-band, particularly on incumbents already using the band. "Both the studies are over estimating benefits because they are only taking into account a limited range of costs and are not quantifying the disappearance of benefits for those that today are using C-band," Monica Pesce, managing director of VVA, told Via Satellite from WRC-15. "In some cases it is that they are overestimating the benefits they will gain by getting access to C-band, but the most important part is they are not taking into account a set of costs or a disappearance of benefits that, if included in the study, would of course have negative impacts on the total value." Frontier Economics has performed studies on the reallocation of C-band for three regions: the Asia Pacific, Africa, and the Middle East. Plum very recently released a study on the potential benefits of IMT use of C-band in London, U.K., and Shenzhen, China. "Not many alternatives have been considered, such as the case for alternative bands," added Marco Bolchi, principal consultant at VVA. "There is just a focus on C-band. C-band is very effective for mobile operators because it is the largest chunk of spectrum available, but it is not the only one." Bolchi said the Plum study starts from the assumption that C-band is easily sharable — something vehemently refuted by the satellite industry — and that the quantification approach is related to the savings for mobile operators in terms of money saved on the deployment of additional small cells. Regarding the Frontier Economics studies, he said the impact of rain fade is understated on users who, without C-band, would be forced to use alternatives such as Ka- or Ku-band, which do not ensure the same level of service. In an email to Via Satellite, Frontier Economics said it understands VVA has concerns with its studies regarding the scope and methodology, but disagrees with the research group's claims. "On scope, we understand that VVA considers that we have not quantified the gains from alternate means of providing additional mobile capacity or of reallocating spectrum bands other than the C-band. We believe, and other studies have shown, that the alternate means will not be sufficient to meet the future demand for spectrum. Consequently, additional spectrum will be necessary. The objective of the report was therefore to quantify the costs and benefits of reallocating

C-band. The economic assessment of reallocating other bands was thus outside the scope of our study," Goran Serdarevic, a manager in Frontier's Economic's telecoms practice, told Via Satellite. On the impact to existing C-band users, Serdarevic said Frontier Economics also disagrees, because its estimates assume that only half of the available C-band will be reallocated to mobile use. Critical applications, the research firm assumes, will move to the upper half of the band to coexist with mobile, while non-critical applications would move to other bands. "Also, on methodology, VVA has raised concerns about our use of 2.6 GHz auction values instead of 3.5 GHz auction values to estimate economic benefits and our calculation of country-specific factors. Currently, 3.5 GHz spectrum is not widely used for mobile; 2.6 GHz spectrum, on the other hand, is also high-frequency spectrum that is currently used to provide mobile capacity in the same way that we would expect C-band to be used in the future, making it a relevant proxy," Serdarevic added.

Eutelsat Supplies IP Easy Service to Bluewave for Satellite Broadband in Myanmar

Bluewave, a local telecoms operator in Myanmar, has selected Eutelsat's IP Easy solution to jumpstart a new satellite broadband service throughout the country. Commercialized from today, the service will offer speeds of up to 12 Mbps and will be operational from first quarter of 2016 using capacity on Eutelsat 70B. The satellite covers all of Myanmar, a country characterized by a wide surface area and mountainous and highland regions with limited terrestrial infrastructure. The new service uses Newtec's Sat3Play VSAT broadband platform as well as MDM2200 IP satellite modems, antennas and interactive Low Noise Block down-converters (LNBS). End users can install the equipment thanks to a "Point & Play" system. The set-up is compact with similar antenna sizes to satellite TV antennas. "The solution enables us to provide best-in-class, global connectivity services at a critical time of rapid economic and social development in Myanmar, with high-quality services especially tailored to enable all communities to fully seize opportunities to contribute to the

long-term prosperity of the country," said Clement Larroque, managing and operations director at Bluewave.

Yahlive Launches More than 40 Channels in Greater Arab Maghreb Region

Yahlive, through a new partnership with Paris-based Sahli Media Group, has launched a bouquet of 43 channels for the Greater Arab Maghreb region. The Free-to-Air (FTA) channels include news, entertainment and lifestyle content. The line-up includes original Arabic TV entertainment and a variety of local channels along with premium international channels including BBC Arabic, MBC and Fox Movies. "We have worked closely with regional broadcasters to ensure we are delivering familiar local channels, along with international favorites. This latest development has increased the available channels by 25 percent, enabling viewers to access over 200 channels from all over the region," said Sami Boustany, CEO of Yahlive. Yahlive viewers across Northern Africa will gain access to the new channels, 20 of which are only available exclusively through the operator. "Bringing a bouquet of exclusive local channels dedicated to our region's viewers will not only give them more choice, but will allow other local broadcasters to join, thus creating a Greater Maghreb satellite TV hub," added Samir Sahli, CEO of Sahli Media Group.

ITU Flight Tracking Spectrum Allocation: Praises and Concerns

The International Telecommunication Union (ITU) has reached an agreement to allocate radiofrequency spectrum for global flight tracking in civil aviation. The frequency band 1087.7 to 1092.3 MHz has been allocated to the aeronautical "Earth-to-space," Mobile Satellite Service (MSS) for satellite reception of Automatic Dependent Surveillance-Broadcast (ADS-B) emissions from aircraft transmitters, according to the ITU. The decision, announced at the 2015 World Radiocommunication Conference (WRC-15) in Geneva on Nov. 11, is a swift reaction to enable more frequent and vigilant aircraft tracking

in the wake of the disappearance of Malaysia Airlines' flight MH370 late last year, which vanished from radar screens during a transoceanic flight and has yet to be fully recovered. While many companies working to provide space-based ADS-B solutions for flight tracking, such as Aireon with Iridium and Globalstar alongside partner ADS-B Technologies, see the quick action from the ITU to allocate spectrum for this purpose as a clear victory, Inmarsat believes it may do little to prevent future aircraft disappearances in the future.

"Now our aviation industry will witness a kind of improved safety measure with respect to flight tracking in real time all over the globe. Before, aircraft flying through the Arctic region could not be tracked; the pilots were on their own. But with this decision, now it will be possible to track every aircraft anywhere via satellite within the globe," said Festus Yusufu Narai Daudu, chairman of the WRC-15, speaking on the ITU's decision during a press conference following the announcement. Houlin Zhao, secretary general of the ITU, also made it clear that the union made an effort alongside industry to collaborate quickly and efficiently to pass the resolution in just one year. As the WRC conference meets every four years, most decisions of this nature take at least four times as long to reach consideration by the ITU, according to Zhao. He was clear, however, that the ITU can only provide ICAO and the aviation ecosystem with the spectrum to track flights, and that it is up to industry to provide the technology that will make incidents such as MH370 — hopefully — something of the past. Companies such as Aireon, which has launched an effort to use space-based ADS-B to track the location and position of aircraft globally using receivers built into the Iridium Next satellite constellation, are already on the hunt to provide reliable aircraft surveillance. With Aireon's air traffic surveillance solution expected to be operational in 2018, the company also has much to gain from the new protection of the 1090 MHz spectrum. "What this does is check a box, really, it says that the spectrum that we'll be using is protected on a primary basis for providing safety air traffic surveillance services for air traffic control organizations. This helps our customers get through their regulatory operations on a much quicker basis,"

Don Thoma, president and CEO of Aireon, told Via Satellite. "This helps us and our customers to work with ICAO to get a global stamp of approval for the regional implementation of this in other parts of the world." Aireon is already working with countries such as Australia, Iceland and New Zealand to evaluate the flight tracking solution in oceanic and polar regions. According to Thoma, the company plans to work with major air traffic control organizations, such as the FAA, NATS, Nav Canada, NavAir and the Irish Aviation Authority, as well as others, over the next few years to "prepare and get through the whole operational certification process as well as the regulatory certification" to enable these organizations to use this capability starting in 2018. "But this is a process that will take between now and 2018 to make a reality," Thoma added. The ITU's decision to protect the spectrum is a big win for Aireon on many fronts and analyst Chris Quilty, senior vice president of equity research at Raymond James and Associates, believes it will open a window for the FAA to contract with the company. "With the endorsement, it is only a question of 'when' not 'if' the FAA will enter into a data service agreement. Our guess: sometime in the next 12 to 18 months, which should enable Aireon to raise (and pay) a \$200 million hosting fee to Iridium," said Quilty in a research note analyzing the decision.

Global Organizations Unite to Defend Satellite Use of C-band

Several international organizations including the United Nations World Food Program (WFP) and Office for Coordination of Humanitarian Affairs (OCHA), the International Civil Aviation Organization (ICAO), the World Meteorological Organization (WMO), the World Broadcasting Unions (WBU), NetHope, the International Maritime Organization (IMO), and the Space Frequency Coordination Group (SFCG), have voiced their desire to see C-band spectrum preserved for use in delivering mission-critical satellite services worldwide. "These entities and others have showed what was described as an "unprecedented demonstration of support for satellite spectrum" during a series of briefings held at the International

Telecommunication Union's (ITU's) 2015 World Radiocommunication Conference (WRC), according to a Nov. 12 press release jointly issued by the Asia Pacific Satellite Communications Council (APSCC), Cable and Satellite Broadcasting Association of Asia (CASBAA), EMEA Satellite Operators' Association (ESOA), Global VSAT Forum (GVF), Interference Reduction Group (IRG), Society of Satellite Professionals International (SSPI), World Teleport Association (WTA), and other international satellite industry associations. The high level of support from these organizations makes clear the importance of satellite communications in C-band spectrum and how further disruption of safety-of-life services due to wireless interference is unacceptable," the seven non-profit associations representing the global satellite communications sector said in a joint statement. The satellite industry is seeking to defend itself from wireless interference within the 3400 to 4200 MHz band (C-band), which the satellite industry says the IMT industry is trying to get access to despite reports that previous efforts have already disrupted communications services with serious interference.

Bangladesh to create own national satellite capacity

The government of Bangladesh on Nov. 11 contracted with manufacturer Thales Alenia Space to build the Bangabandhu-1 telecommunications satellite, ushering a new nation into the large group of Asian countries with their own national satellite capacity. France- an Italy-based Thales Alenia Space bested a field of competitors that included Orbital ATK of the United States; MDA Corp. of Canada, teamed with its Space Systems/Loral builder in the United States; and China Great Wall Industry Corp. of Beijing. The contract, valued at \$248 million, includes the construction of the 3,500-kilogram Bangabandhu-1, its launch — likely aboard a European Ariane 5 rocket — and the associated ground segment including satellite control and network operations centers. Loan guarantees have been provided by the French export credit agency, Coface.

Arab World's Satellite pay TV operators provides a total of 280 Pay TV channels

New research and analysis by the Arab Advisors Group reveals that as of October 2015 the four satellite Pay TV operators, broadcasting from the region, offered a combined total of 280 channels. OSN is the leader in terms of the number of offered channels. Four satellite Pay TV providers broadcast from the Arab World. Namely: Orbit Showtime Network (OSN), beIN Sports, Al Majd and MyHD. Expectedly, beIN Sports offers the highest number of sports Pay TV channels with 21 sports channels. A new report, "Satellite Pay TV Operators in the Arab World 2015" was released to the Arab Advisors Group's Media Strategic Research Service subscribers on October 19, 2015. This report can be purchased from the Arab Advisors Group for only US\$ 1,950. The 91-page report, which has 32 detailed exhibits, provides a detailed analysis of the landscape of satellite Pay TV and profiles the four operators including OSN, beIN Sports, Al Majd and MyHD. The report also compares the channels, packages, prices, dealers and interactive services of the four satellite Pay TV operators, in addition to full listing of channels, packages, prices and dealers. Any investment in this report will count towards an annual Strategic Research Service subscription should the service be acquired within three months from purchasing the report. Three of the four Pay TV providers also offer HD channels: OSN, beIN Sports and MyHD. OSN and MyHD offered 55 and 53 HD channels, respectively, while beIN Sports provided 20 HD channels. "By September 2015, the four Pay TV providers offered 280 channels. OSN had the highest number with 162 channels (including the 3 pay-per-view channels and two On Demand channels), MyHD came in second with 84 channels. beIN Sports offered 21 channels, while Al Majd TV provided 13 channels," Ms. Hiba Al Atiyat, Arab Advisors Senior Research Analyst wrote in the report. "The total air time per month for the four pay TV providers reached 201,600 hours. OSN and MyHD had a 57.9% and 30% share of the total air time, respectively, while beIN Sports' market share of the total air time reached 7.5%. As for Al Majd, it stood at 4.6% by end of September

2015," Ms. Al-Atiyat stated. The Arab Advisors Group's team of analysts in the region has already produced over 4,300 reports on the Arab World's communications, media and financial markets. The reports can be purchased individually or received through an annual subscription to Arab Advisors Group's (www.arabadvisors.com) Strategic Research Services (Media and Telecom). To date, Arab Advisors Group has served over 900 global and regional companies by providing reliable research analysis and forecasts of Arab communications markets to these clients.

Telkom SA Selects Avanti Communications for High Speed Broadband

Telkom SA has selected Avanti Communications to provide national high-speed broadband coverage across South Africa. Service will be supplied using Avanti's Hylas 2 Ka-band satellite, which has 100 percent coverage of South Africa across five beams. This multi-year commitment is expected to make a significant contribution to filling Hylas 2 and Hylas 4 South African capacity in a market that is developing well for Avanti. "It is of great importance for Avanti to secure the partnership of Telkom in our shared mission to bring broadband to all government sites, businesses and homes in South Africa. The country is Avanti's most important market and is served by Hylas 2 and Hylas 4. We are privileged to have been selected and look forward to a strong partnership. Avanti has now won contracts with the incumbent national telecoms companies in all of its core African markets, in-line with its announced strategy," said David Williams, chief executive of Avanti.

SpeedCast Successfully Deploys 35-Site Network for Save the Children

SpeedCast France (formerly Geolink Satellite Services), has successfully deployed a 35-site network for Save the Children International (SCI). The new satellite service provides connectivity to a network of 35 C-band VSAT systems across 35 sites in Africa. The new service was set up for the customer as a Virtual Network

Operator (VNO). The VNO allows SCI to allocate pooled bandwidth efficiently and allows the flexibility to make changes quickly. SpeedCast trained members of SCI staff as VSAT installers at SpeedCast's teleport in Germany. "During the recent Ebola Emergency, I spent two months connected to the SpeedCast service, and the connection quality was better than some places in Europe," said Mark Hawkins, Global Field Technology Manager at SCI. "I was able to participate in conference calls with other parts of the world and some people were surprised that I was communicating over a VSAT link."

GSMA Report Claims Urgent Need for C-band

Released coinciding with the long-awaited 2015 World Radiocommunications Conference (WRC-15), the GSM Association (GSMA) shared a study on the use of C-band spectrum, 3400MHz to 4200MHz, that says the International Mobile Telecommunications (IMT) industry needs access to this spectrum soon or it could face oversaturation in growing markets. The "Use of C-Band Spectrum for Mobile Broadband in Cities: London and Shenzhen" study, conducted by Plum Consulting with analysis from the GSMA and Huawei, evaluates the potential benefits of C-band for mobile use in the cities of London, U.K., and Shenzhen, China, as well as the repercussions of not opening up the band. Plum Consulting's study suggests London will experience a "capacity crunch" around 2022 if IMT is denied access to C-band, leading to slower download speeds and greater latency, subsequently resulting in poor Quality of Service (QoS) and Quality of Experience (QoE). Shenzhen reaches this crunch even sooner, according to the study, around 2020. Furthermore, the study states that these results are based on "conservative mobile data traffic demand forecasts." Should demand climb by 30 percent more than predicted, London would reach its capacity crunch in 2020, and Shenzhen in 2018. "The results of the study suggest that consideration should be given by governments and regulators to the early release of spectrum in the range 3400 to 4200MHz. The likelihood of a capacity crunch in the early 2020s in both cities indicates that action is required in the short term to deliver regulatory

certainty to those making investments in mobile infrastructure and to deliver the quality of experience necessary for social well-being and economic growth," Plum Consulting wrote in the report. The battle over C-band is the satellite industry's biggest undertaking at WRC-15, as it is the dominant incumbent user of this spectrum. There is significant concern that if some or all of C-band is allocated for IMT, it will blot out the ability to provide services by satellite. A major source of contention is whether or not C-band can be effectively shared, with IMT usually claiming it is possible, while satellite companies argue it is not. Plum Consulting assumes that incumbent services using some portion of the frequency band would prevent mobile use of that portion in certain areas. Nonetheless, the firm states that sharing C-band is an essential part of meeting IMT demand.

Hughes Rolls Out New HM Satellite System for Mobility and Portability Applications

Hughes Networks Systems has unveiled its new HM System, engineered around its Software-Definable Modem (SDM) technology and Scrambled Code Multiple Access (SCMA) waveform. Hughes is launching with three Commercial-Off-The-Shelf (COTS) products for government applications. The new HM System employs a commercially based, open standards architecture and band-agnostic platform that enables solutions to meet a variety of mobility and portability requirements for government users. In addition to supporting fixed applications, the HM System provides satellite-on-the-move capabilities for airborne, maritime and land mobility solutions, including a complete, ultra-compact and portable terminal for small teams reliant on quick-deploy connectivity. With the first gateway installed and fully operational in September, the COTS products are now ready for market rollout. There are three HM System product solutions based on the new waveform technology. HM100 is an enterprise application modem; HM200 is a Satellite-on-the-Move (SOTM), ruggedized modem; and the HM300 is an ultra-compact, portable terminal. Suitable applications for

the HM System include Intelligence-Surveillance-Reconnaissance (ISR), border patrol, search and rescue, disaster response, wildfire monitoring, oil platform communications, cellular backhaul and airborne Beyond Line of Sight (BLOS) communications.

iDirect to Deliver Satcom Solutions to Danish Armed Forces

iDirect has signed a framework agreement with the Danish Acquisition and Logistics Organization (DALO), a specialized procurement center and logistics authority, to deliver hardware, software, and services to the Danish Armed Forces. In order to carry out a wide range of missions, the Danish Armed Forces require a communication system that can deliver secure, effective Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR). The iDirect Evolution portfolio enables the Danish Armed Forces to leverage the Wideband Global Satcom (WGS) program, along with partner nations defense satellites and commercial satellites. The iDirect platform allows the Danish Armed Forces to dynamically balance traffic between operational and welfare requirements, and mobile and static deployments depending on the varying levels of priority. iDirect's TRANSEC capabilities will help build added security into their networks, and the technical expertise of the 24/7 iDirect Technical Assistance Center (TAC) provides a high level of reliability to the Danish Armed Forces. The rollout of new products in the iDirect defense portfolio will provide the Danish Armed Forces with a highly efficient and resilient portfolio of remotes, designed to lower operating costs.

ABS, Arabsat Expand Partnership on ABS 3A Satellite

Asia Broadcast Satellite (ABS) and Arab Satellite Communication Organization (Arabsat) have signed an expansion capacity agreement on ABS 3A for a multi-transponder, multi-year deal for Ku-band payload. The additional capacity will be used for different customer networks within the Middle East and North Africa

(MENA) regions, in particular Saudi Arabia. Under the agreement, Arabsat will use the new bandwidth on ABS 3A at 3 degrees west, mostly for data services for enterprises, banking and government institutions. ABS 3A, an all-electric propulsion satellite, entered commercial service on August 31. The satellite features 48 C- and Ku-band transponders (96 x 36MHz equivalent) and is equipped with high performance beams to support rapidly growing markets in the Americas, Europe, the Middle East and Africa regions. ABS 3A provides expansion capacity to reach markets servicing high-growth data, video, mobility and government applications.

Intelsat, JSAT Partner for Horizon 3e High Throughput Satellite for Asia Pacific

Intelsat and SKY Perfect JSAT Corporation announced they have signed a definitive agreement to form a joint venture that will launch a new satellite with optimized C-band and high throughput Ku-band capacity to satisfy the growing mobility and broadband connectivity demands in the Asia-Pacific region. To be known as Horizons 3e, the satellite is based on the Intelsat EpicNG high throughput design, which, upon launch, will complete the global footprint of the Intelsat EpicNG next generation platform. The satellite will be stationed at the 169 degrees east orbital location with a launch expected in the second half of 2018. Horizons 3e will bring high performance, improved economics and simple access to the aeronautical and maritime mobility, cellular backhaul, corporate enterprise and government customers operating in the region. This is the fourth satellite to be owned jointly by JSAT and Intelsat, following Horizons 1, launched in 2003; Horizons 2, launched in 2007; and Intelsat 15/JCSAT 85, launched in 2009. The formation of the JSAT/Intelsat venture features equal ownership of the satellite, which will be manufactured over a 2.5 year period. Given the business construct, the program will not be considered part of Intelsat's capital expenditure program.

EU Parliament Puts forth Resolution for Global Flight Tracking Spectrum

The European Parliament has adopted a resolution supporting the assignment of primary radio spectrum allocation for satellite-based Automatic Dependent Surveillance-Broadcast (ADS-B). European Parliament's Commissioner for Transport, Violeta Bulc, called on all EU member states to welcome this resolution in order to ensure the objective of global flight tracking is supported in negotiations during the 2015 World Radiocommunications Conference (WRC-15) happening in Geneva, Switzerland, through Nov. 27. Space-based ADS-B will allow for real-time air traffic monitoring, and provide performance-based enhancements in safety and efficiency, consistent with the International Civil Aviation Organization's (ICAO) objectives, according to Aireon. "A primary spectrum allocation will ensure that the world's aviation community has access to the next-generation air traffic surveillance capability of space-based ADS-B to improve global safety and efficiency. It is imperative that we make safety a priority and it is encouraging that Parliament has made this critical issue a key objective during the WRC," said Roberta Neri, chief executive officer of Italy's Air Navigation Service Provider (ANSF), ENAV.

Inmarsat to Locate EAN Satellite Access Station in Greece

Inmarsat will locate the Satellite Access Station (SAS) for its European Aviation Network (EAN) high-speed in-flight connectivity solution in Greece, under an agreement with OTE, a Greek telecommunications provider and member of the Deutsche Telekom Group. The development of the SAS in Nemea, Peloponnese, will be a key infrastructure milestone for EAN, which Inmarsat unveiled last month as the first aviation passenger connectivity solution in Europe to combine a satellite network and LTE-based ground network, the latter of which will be operated by Deutsche Telekom. Aircraft will switch automatically between satellite and terrestrial connectivity using an onboard network communicator for

optimal service delivery. As a result, airlines will be able to offer reliable, high-speed onboard Internet access to passengers across Europe's high-traffic flight paths, using Inmarsat's 30MHz S-band spectrum allocation in all 28 European Union member states, according to the company.

WRC-15 Begins in Geneva

The International Telecommunications Union's (ITU) 2015 World Radiocommunication Conference (WRC-15) kicked off today in Geneva, Switzerland. The conference, which the telecommunications industry has been preparing for, takes place from Nov. 2 to 27, and will review and revise the international regulatory framework for radio communications. More than 3,000 participants, representing more than 160 of ITU's 193 member states, are expected to attend WRC-15, as well as roughly 100 observers from ITU's 700 private sector members and various international organizations. Among the issues most pertinent to the satellite industry is the possible reallocation of C-band for use by the IMT industry. Major topics to be addressed include mobile broadband communications, emergency communications and disaster relief, monitoring the environment and climate change, unmanned aircraft and wireless avionics systems, global flight tracking for civil aviation, enhanced maritime communications systems, road safety, operation of satellite systems, and modifying Coordinated Universal Time (UTC). "With the relentless expansion of wireless services worldwide, all services relying on radio waves are competing for a share of the radio-frequency spectrum to support new applications, growing user numbers and exploding traffic," said François Rancy, director of ITU's Radiocommunication Bureau. "The deliberations at WRC-15 and its outcomes will ensure that we can maintain a stable, predictable and universally applied regulatory environment that secures long-term investments for a multi-trillion dollar industry."



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