SAMENA TRENDS

EXCLUSIVELY FOR SAMENA TELECOMMUNICATIONS COUNCIL'S MEMBERS

BUILDING DIGITAL ECONOMIES

A SAMENA Telecommunications Council Newsletter

Exclusive Interview

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Senior Vice President, Emerging Markets and Indirect Channels
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SAMENA TRENDS

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Telecom industry's role in the framework of Global Sustainable Development Goals

In global efforts toward the fulfillment of every single one of the UN's Sustainable Development Goals, our industry has a central role to play. There is no denying of the dire need for and the importance of telecommunications services and the adoption of ICT play for a targeted cause -- be it concerning basic human rights, the assurance of healthy lives and well-being, the interaction of humans and the natural environment, global partnership development, or, most importantly, the realization of inclusive and sustainable economic growth for ending poverty.

It is a well-recognized fact that the eradication of poverty in all its forms is the greatest of global challenges. It is also widely understood that telecommunications services and ICT infrastructure development have an obvious, positive impact on poverty reduction -- a claim which has been proven time and again in various developing markets of Asia and Africa. Therefore, since all countries and all stakeholders, acting in collaborative partnerships, will implement the UN's plan for achieving sustainable development globally, it is important that the telecoms industry be further encouraged to make and sustain infrastructure investments.

For the next 14 years, the communications industry sees its role becoming ever more central in every human endeavor that will be made in support of the UN's plan toward fostering human progress on other new, smarter fronts in relation to the human society, the environment, and the planet. This will require a similar level of cooperation and collaborative work within the industry - including among telecom operators, technology providers, and both policy-makers and regulators - as has been agreed to by the Member States in the UN's resolution adopted by the General Assembly on 25 September 2015.

In the recently concluded Mobile World Congress, during which exceptional technology progress was reported by various companies and with many others forming new partnerships and collaborative initiatives to seek yet other means and tools to design a better digital experience for the end-user, it could be deduced from the discussions that the under-served must benefit from the world's combined digital intellect. This includes humans as well as all occupants of our environment. The still one-year-away arrival of 5G offerings, it could be argued, will truly be about the digital experience and how the common-man and the environment will drive benefit from those offerings and capabilities.

In light of this great period of excitement, progress, investment planning, and a sense of urgency within the policy-making circles to advance digital development, SAMENA Council feels that, with its new, dynamic leadership announced this month, and given its global leadership role in bringing private-sector in closer alignment with regulatory preferences, it is a matter of utmost importance that all decision-making be done, one, to nationally promote sustainable investment and to encourage collaboration and partnership development in this new age of digital disruptions and over-the-top services, and, two, to ensure that all the 17 global goals, underlined by the UN and which are being driven by ITU, are kept in view of all ICT policy framing, which has started to undergo development and implementation all around the region.

2016 is the year of *smart* and SAMENA Council wishes the industry stakeholders its support in their endeavors toward *smart* decision-making.

Yours truly,

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Chief Executive Officer
SAMENA Telecommunications Council

Philippe Koebel
Senior Vice President, Emerging Markets and Indirect Channels

Philippe Koebel is Senior Vice President for the Emerging Markets & Indirect Sales channel within Orange Business Services. In this role, he is responsible for the Sales & Marketing activities in the Middle-East & Africa regions as well as managing the Orange partnership with SITA (Société Internationale de Télécommunications Aéronautiques).

Based near Paris, Philippe is a member of the Executive Committee of Orange Business Services, as well as President of the Board for the company's entities in Qatar and Egypt. In addition, Philippe is a member of the Administrative Board of Sofrecom, a subsidiary of the Orange Group.

Philippe, whose experience spans over 20 years with the Group, has held several B2B management positions, both in France and abroad. These include, CEO of a subsidiary, branch manager, followed by several regional and operational Director positions for Global One, Equant, and now Orange Business Services.

A French national, Philippe holds degrees from 'Ecole Polytechnique' and 'Ecole Nationale Supérieure des Télécommunications' (Telecom Paristech).

Q. Please tell us about Orange Business Services' achievements in digital services, including your recent recognitions.

A. Our simple aim is to connect everyone to the things that are essential to their lives. For our enterprise customers this means that we aim to be their trusted partner in their digital transformation.

Orange Business Services has the clear objective of being the best global services provider in executing digital transformation including smart cities, utilities, e-health, banking and finance, and retail.

We do this by helping companies collaborate more effectively, operate more efficiently and engage better with their customers – connecting their people, sites and machines securely and reliably.

It's an approach that is working.

Orange Business Services was a winner at the World Communication Awards 2015, as recipient of the User's Choice Award – presented to the telecoms company that received the highest customer satisfaction index (CSI) from an assessment of the survey responses.

We were also positioned in the Leaders quadrant in the January 2016 Gartner Magic Quadrant for Network Services, Global – positioned highest along the 'ability to execute' axis and acclaimed as having a special strength in Emerging Markets. The capabilities of Orange Business Services extend beyond connectivity – we have also just been positioned as a Leader in the Gartner Magic Quadrant for Contact Center as a Service, Western Europe.

Recognition by Gartner reflects our efforts to meet our customers' needs through innovation with new services including through hybrid networks and Software Defined Networks (SDN) capabilities, customer experience and our unique global reach.

Q. Given your expansive presence around the globe, what truly sets Orange Business Services apart from the competition?

A. Our global reach - our scale, and breadth and depth of capabilities - is a significant advantage and a major differentiating factor.

As we navigate the fourth industrial revolution with a focus on hybrid industrialization and customer experience, we are harnessing all our resources to undertake some of the largest and most complex infrastructure and smart projects in the region, covering voice, contact centers, network, integrated services, smart cities and cyber defense.

All of this is underpinned by a commitment to innovation and research, as pioneers in the industry. We have 5,000 people working in 15 R&D centers locations around the world in our Orange Labs network, which manages all of our innovation and research entities. The Explocentre is where potential innovations are tested by our customers, and our Technocenters manage the final development and releases of our products to market.

We channel all of this global reach and depth of expertise and capability with local knowledge and go-to-market partnerships; in the Middle East we create high quality partnerships with telcos who hold operator licenses and already have CAPEX invested.

Beyond the scale, breadth and depth of our capabilities we have a unique strength in orchestrating and designing all the components of bespoke solutions that deliver IT infrastructures and services that align with our clients' business objectives.

Q. How do you see your role in driving global innovation on connectivity, cloud-based communications, and data-center operations?

A. Our Essentials2020 program recognizes that digital technology is for everyone as it continues to transform society - and increasingly rapidly.

For Orange Business Services, it's all about supporting the transformation of corporate customers through our Essentials 2020 strategy which places a focus on five areas for our business customers with enriched connectivity, collaborative workspace, cloud computing, improving business processes through applications and connected objects and security.

In terms of networks, Business VPN Hybrid provides flexible, secure connectivity and performance and is the foundation for digital transformation, meeting business demands for the Internet, cloud, and mobility.

In terms of Cloud, our services are hosted in state-of-the-art cloud-ready data centers to offer our customers worldwide quality of service and security. Cloud solutions can be based on public or private Cloud or hybrid Cloud

Flexible Computing solutions and Business Together as a Service (UCaaS) are available from three regions: Europe, the U.S. and Asia. We also have our own data center in Normandy (France) for customers and for our own needs.

For our customers, security means the ability to monitor complex infrastructures, trigger alerts and correlate them to detect suspicious behaviors. It's about building defense systems and protecting their infrastructure, applications,

and critical data. Our ambition is to accompany our customers in the definition and implementation of such a security governance.

In terms of collaborative workstyle and smart and mobile ways of working our mobile activities, our IT competencies (workspace virtualization) as well as our collaborative tools (voice, video, UCC, intra social networks) position us as a key player.

Q. As an integrated communication services provider, how do you view the need for integrating terrestrial and satellite communications and Orange Business Services potential role in helping terrestrial and satellite operators collaborate more effectively?

A. Network services represent a large proportion of the services we implement in the Middle East and VSAT plays a big role within the region relating to both primary and secondary connectivity.

Orange Business Services has a 50 year history in the Middle East and Africa and has developed a very strong business foundation and presence with an extensive regional network footprint, comprised of 138 points of presence, including in 31 countries with terrestrial IP VPN access nodes and 23 countries with satellite IP VPN access nodes. This allows Orange to offer a fully-managed, seamless MPLS and satellite network that is secure and optimized.

Q. What are some of the least talked about business connectivity challenges that still exist in the emerging markets?

A. Emerging markets present challenges and opportunities in equal measure. On the one hand, they can be relatively simple markets with little in the way of legacy infrastructure and systems; on the other hand, they can be complex environments in which to operate, from regulatory perspective and

even when considering basics such as access to stable power supplies.

The opportunities and the potential far outweigh the challenges; we tend to see young populations, which are more tech savvy, with high penetration of mobile phones, technology and especially smartphones.

Setting up basic broadband connectivity can be a challenge and a satellite network can be very useful where a solid infrastructure is needed to connect remote areas and sites/locations.

The opportunity here is the ability to take a digital leap and embark on a fast and profound digital transformation that makes radical impact on society through the innovation that flows.

Q. What are your views on the pace of digitization in this region, and where do you feel we are heading, qualitatively speaking, as a society?

A. Digital transformation is gaining traction and becoming a reality for many companies – and whole industries – especially in the Middle East region. Any transformational change is disruptive, but the speed of IT transformation is what makes it especially interesting here.

Perhaps the biggest challenge is the scale of the ambition; nowhere else in the world have there been smart city projects launched on this scale and with this amount of energy and drive behind them. The big vision, the leadership and the resources are all in place but these are new models and so require new thinking; it is not a question of importing a model from elsewhere and finding the right partners who can match the vision, scale and speed of these projects is an interesting strategic challenge.

Digital transformation is being pioneered and led collectively by regional governments and the public sector to bring government bodies and people closer together. This movement is providing a platform for the further development of

diversified economies, including with the emergence of knowledge economies and knowledge societies that are more closely integrated with the global economy. Further, digital transformation is providing sustainable and competitive development and opportunities for people and populations.

Q.   How do you view the Orange Business Services role in realizing smart cities with sustainable infrastructure, and your ICT developmental role in 2016 and beyond?

A.   Governments in the Middle East want to attract new companies and industries to help support the diversification of the economies and realize their visions for sustainable and competitive knowledge economies.

Governments are looking at the development of smart city technologies to provide some of the economic answers, at the same time as enhancing the quality of life for citizens, residents and visitors. Governments are turning towards smart city technology to help manage energy and other resources in order to create sustainable economies.

The GCC may face similar growing pains and infrastructure challenges as in other parts of the world, but it also has some major advantages. There is no doubt that the region benefits from strong leadership with a clear vision and this means that it will move beyond other regions in the development of smart cities – and much faster. In fact, the scale of smart city developments in the region means that these projects – the models created and unique experiences gained - are likely to influence the development of smart cities everywhere.

Orange Business Services sees a great opportunity within this digital transformation of cities in the region to create a role as 'digital partner' to governments and developers looking to build new smart developments on the foundation of the network, which is where our global smart cities experience, expertise and resources become valuable.

City planners also need a partner to help in assessing, designing, building and running smart cities, and playing the role of master systems integrator in these very complex smart city ecosystems.

Connecting a city's digital components demands robust networks to support them. A smart city is all about digitization – the digital network is the foundation on which the smart city is built. This 'digital partnership' is critical to success and must be in place at the outset – even at the conception of the vision of the ultimate smart city. Smart cities are built on the foundations of the digital network, which injects intelligence into the city infrastructure. Software, connectivity, sensors, cloud solutions and M2M enable a wide range of infrastructure elements to share real time data

together and also with management systems.

This provides city authorities with the insights they need to stay in control and make their cities function efficiently and create the high quality lifestyle and experience for citizens and residents through access to services. But it all starts with the network.

We are already working with King Abdullah Economic City and King Abdullah Financial District in Saudi Arabia, Lusail in Qatar and Masdar City in Abu Dhabi, UAE. These Greenfield sites create the opportunity to interconnect the different city services right at the start and to build the city on the network foundation.

GLOBAL GOALS FOR SUSTAINABLE DEVELOPMENT
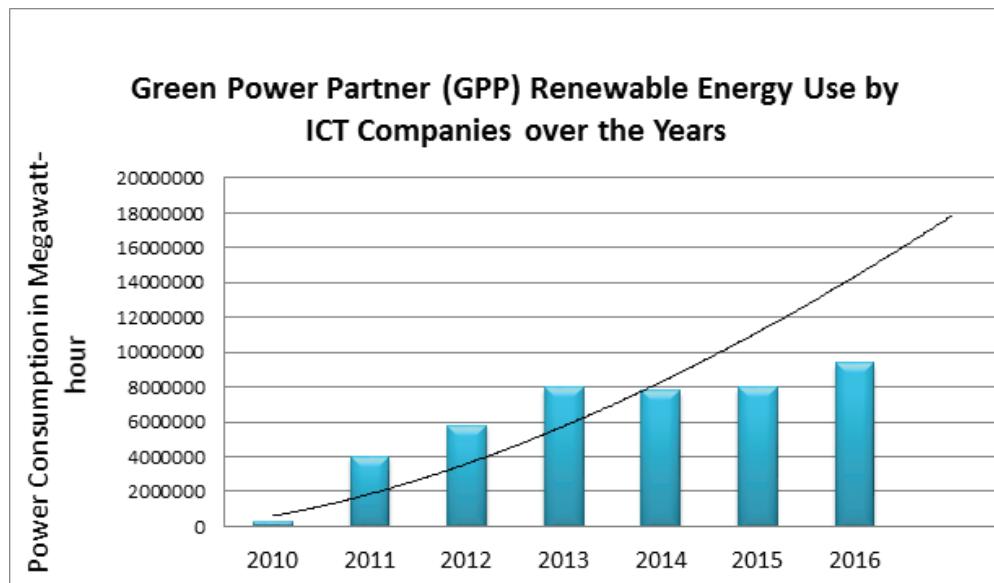
Data Source: Adopted from CleanTechnica's analysis

Research Note:

In 2015, through a resolution of the General Assembly of the United Nations, countries adopted a set of goals to end poverty, protect the planet, and ensure prosperity for all as part of a new sustainable development agenda. Each goal has specific targets to be achieved by 2030. The fulfillment of these goals requires strategic partnerships, openness to experience-sharing, collaboration on matters of importance to the telecoms industry and other economic sectors, policy-makers and regulators, the society, the environment, and the natural ecosystem.

From the industry's perspective, among other contributing factors toward the growth of digital development and the adoption of digitization, the rise of power consumption is inevitable. However, the industry shall play its role in not only providing smarter and innovative means to provide access to services and technologies, for example, through the use of cloud-based servers, but will also play its role toward realizing a much greener and safer environment.

MEMBERS NEWS

MEMBERS UPDATES

International partnerships 'Empower' Etisalat's efforts to develop Internet of Things solutions

Etisalat Group, the leading telecommunications operator in Middle East, Africa and Asia, is accelerating its work with global partners in the field of Internet of Things (IoT). The foundation of an industry forum and new customer trials in several countries are the latest initiatives announced by the company to develop Narrow Band-IoT (NB-IoT) solutions, which will play a critical role in deploying Internet of Things services. Narrow Band Internet of Things (NB-IoT) is the proposed global standard that enables mobile operators to build Low Power Wide Area networks. LPWA networks are new types of networks to address a large number of IoT and M2M applications that are limited due to cost, coverage or battery life. LPWA networks will improve the deployment of IoT services for Smart Cities and in industries, such as Agriculture, Utilities and Asset Management and is a market estimated to be worth $589bn by 2020. Khalifa Al-Shamsi, Etisalat Group Chief

Digital Services Officer, said: "Etisalat is at the forefront of IoT innovation using different types of connectivity options to provide innovative solutions for the best customer experience. We see LPWA as a key enabler of IoT solutions and are leading the definition and adoption of global standards, which will drive economies of scale, consistency and innovation. A global standard for LWPA is critical for future success and Etisalat is at the forefront of making this a commercial reality." The new initiatives announced by Etisalat build on the work the Group has already led in creating a global standard. Recently the GSMA announced that the mobile industry has agreed on the technology standards for LPWA, an agreement supported by Etisalat and 26 other operators from around the world. Etisalat Group and Huawei have also set up a (JIL) joint IoT innovation lab with which will focus on NB-IoT new service innovation and development. Smart Parking and Connected car, are the first applications using JIL platform. More verticals, including Smart Metering, Smart Tracking, and Smart Lamp Pole are being included for testing as part of this JIL after it was formally inaugurated on February, 2016 which is the first such NB-IOT open Lab in the world.

STC takes part in sponsoring the Mobile World Congress (MWC) in Barcelona

STC group is one of the sponsors of this year Mobile World Congress 2016 hosted by the city of Barcelona from the 22nd to the 25th of February. STC is represented by a group of its top executives who will hold several meetings with the largest decision makers in the field of telecommunications and data technologies as well as with international supplies and operators. In addition to being a gold sponsor of

the convention's official broadcasting company "Mobile World Live" and a sponsor for all the visitors' entry tickets (expecting one hundred thousand visitors this year), STC has set up the largest stand since the beginning of the event alongside a stand that sheds light on its services for visiting the holy sites during the Hajj period, as part of religious observances. STC will also shed light on data consumption patterns for individuals living in Saudi Arabia. STC's will also demonstrate the services offered to users and the related applications. the stand will also include Viva Kuwait, Viva Bahrain and "Integral" the content company. It is worth mentioning that this convention is the most important of all the conventions held for this domain every year as it encompasses all the mobile operators in the world in addition to governmental, legislative and regulatory authorities in the field of telecommunications and data technology.

Ooredoo and Huawei to open innovation lab

Ooredoo and Huawei have signed a memorandum of understanding (MoU) to open a next-generation Innovations Lab in Qatar, at a ceremony at Mobile World Congress in Barcelona. The agreement was signed by Waleed Al Sayed, CEO, Ooredoo Qatar, and Eric Xu, Rotating CEO, Huawei, in the presence of senior Ooredoo and Huawei executives. The agreement is the latest in major deals and initiatives supported by Ooredoo to bring cutting-edge technology to Qatar, and boost research and innovation in the country. Al Sayed said: "This is an important step forward for Ooredoo, for Qatar, and for our future young technology leaders, creating a research hub in our country that will explore the cutting-edge of network technology. "We thank Huawei for their partnership on the project and look forward to working with them to share knowledge and break new ground in network research," he added. Based at Ooredoo's state-of-the-art Qatar Data Centre 5, the facility will develop, test and demonstrate next generation information technology and communication solutions, including Mobile Broadband, 5G, digital transformation, Internet of Things solutions, 4K video enhancements, among others. Eric said: "Advances in network technology are delivering faster speeds and a better online experience, but more than that they are helping transform our digital lifestyles and support the growth of the Internet of Things. We are proud that Huawei is making a significant contribution in Qatar through our work with Ooredoo." The MoU outlines the companies' intent to open an advanced facility that will contribute to Qatar's knowledge-based economy and help train and develop the next generation of technology leaders. Huawei will provide technical support for Ooredoo's research in the lab, including offering training courses and supporting knowledge transfer between the two companies. Huawei and Ooredoo will collaborate on an implementation process for new young talent in Qatar, and regularly organise technical and management

training to deliver sustainable results. The lab will not only be a platform for proof-of-concept projects, but will also demonstrate innovative solutions to partners, enabling them to assess and ultimately use new technologies to enhance their business performance. Among the first-of-its-kind in the region, the facility will host some of the most advanced communication solutions and cutting-edge experimental technologies.

Turkcell posts revenue of TRY12.8bn for FY15, up 6% y-o-y

Turkcell, Turkey's largest cellco by subscribers, has announced its financial results for the year ended 31 December 2015, recording total revenues of TRY12.769 billion (USD4.314 billion), up 6.0% from TRY12.043 billion in 2014. EBITDA amounted to TRY4.141 billion in the period under review, up 10.1% year-on-year from TRY3.761 billion, while the EBITDA margin grew 1.2 percentage points from 31.2% to 32.4%. Turkcell attributed the revenue increases to a 10.2% rise in consumer segment revenues to TRY2.391 billion (up from TRY2.170 million) and a 6.0% rise in corporate segment revenues to TRY529 million (TRY499 million). Net income, meanwhile rose from TRY1.865 billion in FY2014 to TRY2.068 billion in FY2015, with CAPEX – including non-operational items and the 4.5G license acquisition – reaching TRY8.536 billion, of which TRY7.752 billion was related to Turkcell Turkey and TRY770 million to Turkcell International. In operational terms, Turkcell's total domestic subscriber base fell 0.3% from 35.9 million at the end of 2014 to 35.8 million one year later, with 34.0 million being mobile subscriptions (having dropped from 34.6 million), broken down into 16.6 million post-paid as at 31 December 2015 (against 15.2 million twelve months earlier) and 17.4 million pre-paid (19.4 million). Fiber connections, however, increased from 735,100 to 899,400 y-o-y, while Turkcell's ADSL customer base rose from 456,200 to 620,800 in the same period. Looking

forward, Turkcell CEO Kaan Terzioglu notes: 'For a more efficient balance sheet, we increased our stake in lifecell, our subsidiary in Ukraine to 100%; restructured the debt of our subsidiaries; established a consumer finance company and raised USD2.9 billion in funds at favorable terms having secured an investment grade from three rating agencies. Moreover, having purchased the highest number of frequencies at the 4.5G spectrum tender, we have solidified our leadership in terms of the superior network ... The highlight of the sector in 2016 will be the implementation of 4.5G infrastructure. Turkcell will ... offer over 1000Mbps speed on mobile devices through carrier aggregation [CA] technology in the coming years.'

Ooredoo upgrades fiber speeds; relaunches IPTV

Ooredoo Qatar has announced that a free-of-charge speed upgrade on its fiber broadband network is now live, boosting all 50Mbps home fiber plans to 100Mbps, whilst multiplying existing 100Mbps connections to 300Mbps, Gulf Times reports. On top of the speed boost, Ooredoo is also offering all fiber customers a QAR100 (US$27.40) discount on a new enhanced Supernet Fiber Wi-Fi Broadband Gateway for all 100Mbps and 300Mbps customers; the device supports more than 40 simultaneous connections. Ooredoo Qatar has also relaunched its IPTV service under the 'Ooredoo TV' banner, replacing the legacy 'Mozaic TV' IPTV offering and including what it claims is the region's first commercial 4K TV service. Ooredoo TV includes live TV, on-demand content libraries and apps, delivered via the company's fiber network and in-home Wi-Fi to multiple screens. The service, built on technology provided by Huawei, is available on a self-install basis to the 260,000 Qatari homes passed by the Ooredoo direct fiber network. Ooredoo TV is available in four packages featuring Arabic and worldwide channels whilst all bundles are inclusive of 10Mbps broadband and free fixed line calls. At the launch of Ooredoo TV, Ooredoo Qatar's CEO Waleed al-Sayed commented on the

existing size of the company's IPTV subscriber base, saying: 'More than 50% of our fiber network customers are already equipped with triple-play, which means that Mozaic (now Ooredoo TV) is part of the services they receive.' The CEO also said that Ooredoo Qatar has invested more than USD1 billion in its fiber-optic and high speed wireless infrastructure, including its 'ultra-fast' Supernet converged network, the fiber-to-the-home (FTTH) access network and its '4G+' LTE-Advanced (LTE-A) mobile network.

Microsoft launches Azure IoT Hub

Microsoft has announced the wide-scale launch of the Azure IoT Hub, which allows users to connect, provision and manage billions of IoT devices. Microsoft says Azure IoT Hub acts as the bridge between customers' devices and solutions in the cloud enabling storage, analyzing and acting on data in real time. The hub also enables secure two-way communication over open protocols such as MQTT, HTTPS and AMQPS, and is designed to make it easy to connect with other Azure services such as Azure Machine Learning and Azure Stream Analytics. In addition to the launch, Microsoft also announced the expansion of Microsoft Azure Certified for IoT program. The program was launched to ensure IoT solutions from global technology leaders are fully interoperable from the start. By offering trusted solutions from verified partners that work with multiple operating systems, including Linux, mbed, ROTS and Windows, Azure Certified for IoT accelerates IoT deployments. Over the past three-plus months, nearly 30 industry leaders have joined the program, said Microsoft. Now even more have announced their participation, including: Advantech, Dell, HPE and Libelium. Previous certified partners include: Arduino, Beagleboard, Freescale, Intel, Raspberry Pi, Samsung, Texas Instruments and others. "IoT is poised for dramatic growth in 2016 and we can't wait to see what our customers and partners

will continue to build on our offerings. We're just getting started and will have much more to share in the coming months," said a Microsoft blog post.

Ooredoo signs MoU with Al Raffd Fund; enhances efficiency of 621 Sanad Service Centers across Oman

Reflecting its commitment to support the growth and development of Small and Medium Enterprises (SMEs) in Oman, Ooredoo signed a Memorandum of Understanding (MoU) with Al Raffd Fund for internet services for the Fund's 621 Sanad Service Centers across Oman. Under the agreement, the packages will offer the Centers greater connection speeds and a cost-effective range of business services, among other benefits. Greg Young, CEO of Ooredoo, said "SMEs make up almost 90% of Oman's burgeoning business sector, making it vital that we provide them with the products, services, and support they need to continue to thrive and support the nation's development. With that in mind, we developed two special packages to help the Sanad Service Centers increase their productivity, efficiency, and effectiveness as they continue supporting Al Raffd Fund and other SMEs throughout Oman." Established in 2013 on the order from His Majesty Sultan Qaboos bin Said, the Al Raffd Fund aims to empower Omani youth with the means to establish their own projects. To date, the initiative has 1,662 listed SMEs which have in turn created over 3,000 jobs for Omanis. Tariq Al Farsi, CEO of Al Raffd said, "Ooredoo's high-value business products and services are perfectly suited to providing our Centers with the technical capabilities they need to continue operating at the highest performance levels. Agreements like these are important for SMEs in Oman to receive the support they need and through them, the sector will continue leading the way in Oman's economic development." Ooredoo Internet Professional (OIP) service offers customers highly reliable, fast and secure bandwidths ranging from

1 Mbps to 30 Mbps to meet the needs of businesses in the Sultanate. The service also provides customers with a dedicated account manager, choice of limited or unlimited data use, as well as a direct connection with service management and a dedicated after sales support team. Additionally, business customers who choose OIP can also opt to receive a permanent IP address that will ensure lower downtime and remote access from anywhere in the world

Turk Telekom to invest USD3.4m over next three years

Former monopoly fixed line operator Turk Telekom (TT) plans to invest TRY10 billion (USD3.4 million) in a 'digital revolution' over the next three years, with TRY3.2 billion of this mooted to be spent in 2016, according to the Daily Sabah, citing the company's CEO Rami Aslan speaking at a press conference. Commenting on TT's TRY14.5 billion sale revenue for 2015 – up 7% from the previous year – Aslan noted: 'We have

exceeded our target numbers for 2015 and, therefore, will use this surplus to further the digitalization of Turkey in ways which will cater to customer needs as well as Turkey's local interests.' TT estimates annual revenue for 2016 will see an increase of between 7% and 9%, with the operator's long-term targets including connecting 'every household to the fiber-optic network and [turning] Turkey into a digital hub in the region.' As previously reported by TeleGeography's CommsUpdate, last month TT announced the merging of its respective mobile and ISP brands

Avea and TTNet under the unified Turk Telekom brand name, logo and website. The new logo is already in use, as is the single converged website grouping all fixed line, broadband, mobile and pay-TV service divisions. Avea and TTNet remain distinct legal entities as wholly owned subsidiaries of Turk Telekom.

Omantel puts Oman as 13th in LTE speed worldwide

The Sultanate of Oman has been named as having the 13th fastest 4G LTE in the world in a recent report from Open Signal, a leading source of insight into the coverage and performance of Mobile Operators worldwide. Oman's ranking moved 10 positions upwards in 3 months and exceeded advanced nations. Oman's ranking is attributed solely to Omantel, the Sultanate's leading provider of telecommunications solutions and the provider with the widest LTE network coverage in Oman. The results were based on data collected from over 15 million devices around the world that constantly monitors the coverage and performance of their mobile connection. Omantel became the first provider in the Sultanate to introduce 4G LTE networks in 2012. The 4G LTE network now reaches over 80 percent of the population in Oman, and according to the report, the network has an average speed of 20mbps. In 2015 Omantel's total network investments reached over 120 million Rials. In addition, 4.5G technology, introduced April 2015 enables speeds of up to 200mbps. Commenting on the achievement, Omantel spokesperson Samy Ahmed Al Ghassany, COO Omantel, "It is deeply pleasing to see Oman achieve such an excellent global ranking, a fact that underscores our commitment to provide the latest and most innovative technology to our subscribers. It is very satisfying to witness the significant investments in the 4G LTE network come to fruition and benefit the Sultanate as a whole. Oman ranked above nations such as US, France, Sweden and Japan in terms of 4G LTE network speed, this is something we should all be proud

of and really goes to show that we are capable of being global leaders across multiple sectors with the right investment, strategy and commitment to innovate." "Our efforts are derived from our new strategy 'Omantel 3.0' which empowers us to lead Oman's digitalization through the technology we provide and innovate in our offerings. We will continue to invest in expanding and enhancing our networks as they are a key elements in delivering an unmatched customer experience," Samy added. Investing in the future of the nation, Omantel connects even the most remote communities of the Sultanate to each other and with the rest of the world. Omantel is the Sultanate's first and leading integrated telecommunications services provider, enabling the digital society to flourish, allowing new ways of doing business and delivering a world of information, news and entertainment. Today, Omantel boldly innovates to deliver the highest levels of customer satisfaction, the broadest and most reliable nationwide network while investing for Oman's future development.

Ufone awarded in the 5th Corporate Social Responsibility Award selection

Ufone received two awards in the 5th Corporate Social Responsibility Award selection. The panel of judges unanimously voted to acknowledge Ufone's contributions in the categories of "Innovation" and "Employee Engagement". This award is the first and only registered CSR Award of Pakistan. The decision of the panel has subsequently been ratified by the executive board of The Professionals Network (TPN) and Ethical Business Update (EBU). The Innovation Award was given to the Ufone Emergency Alert System (EAS). In view of the overall security situation of the country, Ufone in collaboration with the Punjab Police, launched a single click EAS. The Police Department can extend the EAS to schools throughout Punjab for enhanced security. The system is free of cost and works on any cell phone

using Ufone SIMs. Schools are able to register their Ufone numbers with the Police Department and any alarm generated through the number would alert the Police providing details such as the name of the school, the person who initiated the alarm and location. The Employee Engagement award went to Ufone as it joined hands with The Diabetic Centre (TDC), a non-profit organization to mark the World Diabetes Day by initiating an employee centric health and awareness initiative.

Zain Group and Community Jameel support MIT Enterprise Forum Arab Startup Competition

The MIT Enterprise Forum (MITEF) of the Pan Arab region, in partnership with Community Jameel, the Corporate Social Responsibility arm of Abdul Latif Jameel and Zain Group, a leading mobile telecom innovator across the Middle East and Africa, announced that a total of 78 teams from 15 countries have qualified for the next round of the prestigious MITEF Arab Startup Competition, with the final winners' ceremony now confirmed to be held at King Abdallah Economic City, in Saudi Arabia on 14 April, 2016. The ninth edition of the MITEF Arab Startup competition received a record 5,967 individual and team applications (comprising over 16,500

entrepreneurs) from 21 countries across the Arab world. The three tracks that entrants applied for are: 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 selected 78 teams will start receiving entrepreneurship-focused training during pre-boot camps scheduled to be conducted in Egypt, Jordan, Morocco, Saudi Arabia, and the UAE later this month and in early March, and will start working to achieve specific deliverables in their specific tracks. The national origins of the groups and the corresponding number of semi-finalists who made it to the second round include: Egypt (19), Jordan (10), Lebanon (7), Tunisia (7), Saudi Arabia (6), United Arab Emirates (6), Palestine (6), Morocco (4), Kuwait (3), Bahrain (2), Qatar (2), Sudan (2), Syria (2), Algeria (1), Yemen (1). Hala Fadel, Chair of the Board of MITEF Pan Arab commented, "The record number of applications submitted from across the Arab region this year clearly indicates a steady increase in the spirit of innovation and entrepreneurship of the region's youth. Particularly noteworthy is the significant increase in applications received from Saudi Arabia, from five percent last year to nearly twenty percent this year, which promises a great event at King Abdullah Economic City in Saudi Arabia this April. We look forward to meeting and supporting some of the Middle East's most promising youth as they start and continue their entrepreneurial journeys." Fady Jameel, President of Community Jameel International commented, "The launch of the MITEF Saudi Chapter last year provided an extra opportunity for the Saudi-based entrepreneurs to apply for the competition. The applications submitted for the MITEF Saudi Startup Competition demonstrated great promise, showcasing quality entrepreneurial ideas and startups. Therefore, it was difficult to choose from such a wealth of talent the six winners who will go on to be part of the MITEF Pan Arab Competition. With such impressive talent coming forward in the competitions, it is with great pleasure that Community Jameel pledges its continuous support to the entrepreneurs of the MENA region." Zain Group CEO, Scott Gegenheimer said, "We at Zain are proud to foster

the growth of this competition as we recognize that much of the region's future development will be driven by young people in technology, whose ideas and the ability to turn them into something constructive and sustainable have been and will continue to be the success story of modern society. Congratulations to the 78 semi-finalists and we are looking forward to interacting with this year's aspiring entrepreneurs and shall take the opportunity to capitalize on the most promising innovative ideas in the regional digital space supporting our evolution to becoming a digital lifestyle provider." On 13 April, during a four-day final event in Jeddah, Saudi Arabia, 10 finalists will be announced from each track. These short-listed teams will pitch their ideas to a panel of investors and successful entrepreneurs on 14 April, and the final three ranked winners of the Ideas, Startups, and Social Entrepreneurship tracks will be announced and awarded cash prizes during a gala dinner that same evening. Also during the day, a MIT Technology Review Pan Arab conference will be held.

PTCL records robust performance in FY 2015 with 20% cash dividend

PTCL has announced its annual financial results for the year ended December 31, 2015 in a meeting of PTCL Board of Directors held in Islamabad. PTCL earned revenues of Rs. 75.8 billion for the FY 2015. Data revenues significantly increased by 12% compared with last year. The Company's profitability continued to remain stable despite competition, especially in the broadband segment. Gross and net profit of the Company stood at Rs. 22.0 billion and Rs. 8.8 billion respectively. PTCL group's revenues for the year stood at Rs. 118.6 billion. PTCL cash flows remained healthy and stable in FY 2015 due to continuous efforts to optimize costs as well as strong market position. This impetus continued across all business activities of PTCL including the fixed and wireless broadband and enterprise solutions. Walid Irshaid, President &

CEO PTCL said, "Our robust results again demonstrate the ability of our diversified line of business to perform to the expectations of our shareholders." He further added, "PTCL's performance during the past year is a strong indicator of our dynamic corporate direction, as well as our customers' continued satisfaction in company's products and services". PTCL has declared 20% final cash dividend, inclusive of 10% interim dividend.

PTCL signs MOU with Telenor for infrastructure sharing

Pakistan Telecommunications Company Limited (PTCL), the largest ICT services provider in the country has signed a Memorandum of Understanding (MoU) with Telenor Pakistan. This MoU will facilitate Telenor to avail of PTCL's vast network footprint and infrastructure spread nationwide for their growing 3G subscriber base. Mr. Omar Khalid, EVP Carrier Services & Wholesale, PTCL and Mr. Khurram Ashfaq, CTO Telenor Pakistan signed the MoU in a ceremony held at Telenor Pakistan headquarters here in Islamabad. In the post 3G/4G regime, cellular operators are foreseeing a steep incline in the data usage patterns of subscribers. This requires a considerable backhaul of their BTS networks through fiber connectivity. The aim of backhauling these networks are to ensure their readiness for the evolving data market of Pakistan. As per the MOU, PTCL and Telenor Pakistan shall sign a frame agreement where Telenor shall utilize PTCL's technical expertise and extensive experience for the deployment of their fiber network infrastructure over a period of five years. During the signing, senior management from both companies emphasized the need for closer cooperative ties to provide innovative, cost effective and readily available services for the Pakistani market. Mr. Sikandar Naqi, Chief Business Development Officer PTCL, explained in detail how this partnership would go a long way in paving a bright

future for both stakeholders involved. Also present at the occasion were, Mr. Saad Warraich, Chief Technical & Information Officer PTCL and Mr. Espen Brettas Dahle ,Chief Financial Officer Telenor Pakistan. Both were in agreement that the MoU signed would strengthen the bond between PTCL and its cellular partners within an evolving and highly competitive telecom market.

du chairman envisions the smart city of tomorrow

"Technology has taken us in the shortest amount of time from isolation to interpersonal hyper-connectivity. And now, imagination has allowed us to build a universe in which the very things we have created can have their own inter-object connectivity: the Internet of Things, a reality in which over 13 billion objects are already connected to each other today, and expected to exceed 38 billion by 2020," begins Ahmad Bin Byat in his speech at the World Government Summit 2016 today. Bin Byat, the Chairman of du, delves into how the Internet of Things will enable better societal efficiencies today in a breakout session entitled "The Smartest City in the World", envisioning a Smart future whereby entire cities are connected by the Internet of Things and powered by big data. The discussion serves as a platform to discuss key benefits of building a city connected by the Internet of Things, with the creation of cutting-edge, global, smart technologies. As part of his address, Bin Byat highlights the recent regional emergency situations and how these challenges could be aided by tech-driven innovations. Talking about the New Year's Eve fire, he explains that news now breaks on social media first, "we see how the news started to spread around the world on social media before conventional media [but] the tweets

were mainly highlighting fireworks over the fire incidence." Instead, Bin Byat argues, telecommunications and data companies need to collaborate and harvest the correct data, and thereby manage situations in a smarter way. By collecting the data and using this to manage response effectively, he argues, the public sector reduces the risk for both the public and the emergency response team. As the cities become Smarter (more agile, more responsive, and more predictive) the impact of the Internet of Things on the public in the UAE will be revolutionary, enabling improved safety, security, business and efficiency in managing city resources such as the emergency services, he says. "Because by gathering, storing, processing and aggregating all the data that we receive, we can apply and implement greater operational efficiencies." du has been supporting the Government Summit as Headline partner for three years in support of the Smart City and

future vision, which du has a vested interest in turning into reality. Having already built the foundations for Smart City with WiFi UAE and the first Internet of Things network in Middle East (LoRa network), du is ensuring the backbone to the smart city and integration of Internet of Things is available to help the Government to realise this vision. By integrating systems of vendor agnostic and open platforms du believes Dubai can foster unlimited innovation and adoption of all evolving technologies to create a Smart Dubai.

Orange Business Services powers Canny Quest's e-payment strategy in Iraq with M2M solution

Orange Business Services has signed an M2M solution agreement with Canny Quest International – the Dubai-based technology and business development partner of International Smart Card (ISC) in Iraq. ISC is the largest financial institution in Iraq. It provides financial transaction services including salary and pension e-payment services to government employees and private sector organisations. ISC's four million holders of its debit card, the Qi Card, access services through terminals at points of service across the country. ISC has created a new model for e-payment services using smart cards to deliver personalized services with sophisticated biometrics to authenticate customer ID and counter the risk of fraud. Orange Business Services provides SIMs that enable seamless connectivity to support ISC's 6,000 terminals at points of service (POS) across Iraq; an additional 8,000 POS locations are planned at retail merchants across the country and will be online by mid 2016. ISC plans to roll out services to the Iraqi diaspora and to other countries. The ISC POS terminals are connected to the card management system, which validates transactions through the Orange network. Orange interconnects with all the country's mobile telecoms operators to ensure country-wide coverage and optimized signal quality. ISC customers can access a broad range of virtual financial account management services to access their money including smart cards (closed and open loop), mobile apps and wallets, and the Internet. ISC started operations in 2008 and the company's flagship Qi Card is the first biometric international-standard card used in providing payment services in financial industries in Iraq. Dr. Hasan Alkhatib, Managing Director of Canny Quest International, said: "Iraq is an attractive Greenfield market for innovation, and the country's banking sector is underdeveloped, creating an opportunity for the deployment of new technology. Orange Business Services provides a business-critical part of our solution and enables us to monitor and control our POS terminals. It's a technical and business partnership that allows us to access Orange's technical competence, geographical presence and global expertise, along with local contacts and service. This service has the potential to grow and develop and positively impact the country's GDP. Orange's ability to connect and deliver services seamlessly and reliably is essential to our success." Orange Business Services works with some of the region's leading banking institutions and has 100 banking customers in the Middle East and Africa region, including Ecobank, EmiratesNBD, and National Bank of Abu Dhabi. Philippe Koebel, Senior Vice President, Emerging Markets and Indirect, Orange Business Services, added: "This new strategic partnership with Canny Quest International is supporting real innovation and a digital transformation leading to a new model for the banking sector in Iraq. It's our first M2M application in the Middle East but more significantly, it's making a real difference to people's lives and we look forward to rolling it out to other countries through our extensive presence in the region."

Ooredoo and Microsoft Embark on new collaboration to serve Qatar's businesses

Ooredoo's new initiative will see the introduction of the latest technologies for businesses in Qatar, including a broad portfolio of hardware and software services, as well as a wide range of advanced Cloud services. The exclusive launch of Windows 10 through Ooredoo in Qatar capitalizes on Ooredoo's broad base of business customers across multiple industries. As Microsoft builds on its successful partnership with Ooredoo by launching the Lumia flagship devices, the company continues to expand and enhance the collaboration with the launch of the new Surface Pro 4 devices. Microsoft and Ooredoo have already created a remarkable experience for their customers, by providing a concierge service for Microsoft device customers for the first time. Exceptional offers have already been presented on Office 365. Additionally, Microsoft Qatar also announced today a new Surface 3 Bundle Promotion for Education. The Surface 3 is bundled with Windows 10, Black Type Cover and Pen. Microsoft Qatar General Manager, Naim Yazbeck said: "Microsoft realizes the importance of collaborating and partnering with Ooredoo, as it aims at bringing cutting-edge technologies to Qatar. This partnership is yet another step forward, reflecting Microsoft's commitment to realizing the goals of its national plan, which comes in line with Qatar's National Vision 2030." "We are proud to support Qatar's unique national vision and contribute to one of the most dynamic economies in the world. We believe this new agreement makes sense from every angle: By working together to deliver unprecedented technology opportunities for entrepreneurs and SMEs, we are also supporting the growth of our future clients and partners," he added Microsoft Qatar is excited to announce today that all Government Entities can now order Surface Pro 4 as part of their government Enterprise Agreement. This is a step to support the mobility

initiatives and increase productivity across Government Entities. Details can be found on the Government Agreement Portal. Visitors to the

Microsoft Innovation Summit experienced the latest platform and productivity solutions including from Windows 10 devices, Surface Pro 4 and Surface Hub, to Office 365, Internet of Things, and business intelligence. "Microsoft has seen endless support from its partners: Intel, Dell, Qatar Datamation Systems, Information and Communication Technology W.L.L., Ebla, Everteam, Nintex, Diyar Middle East, Mannai Trading Co. W.L.L, and Plantronics. We are pleased with these productive partnerships and together, we look forward to enable our customers to realize their goals and aspirations," concluded Yazbeck. Ooredoo has also launched a new set of Microsoft business devices in Qatar, which includes Lumia smartphones, Surface Pro 4, and a full range of accessories, including the Lumia 950 Display Dock, foldable Microsoft keyboard and Arc mouse, all bundled with Ooredoo's Shahry Smart, Mobile Data Plans, and Office 365. Commenting on the initiative, Yousuf Abdulla Al Kubaisi, Chief Operating Officer, from Ooredoo, said: "Ooredoo is striving to be an ICT innovation engine for Qatar, engaging with an ecosystem of innovative partners like Microsoft in order to deliver the most reliable and dynamic solutions for businesses and consumers. We're very proud to launch flagship devices and services with Microsoft, and believe this event will provide essential insight and updates for participants." "As Microsoft's first partner to ship Windows 10 on our new PCs last summer, we believe that Windows 10 brings the best of mobility together in a more secure and easier-to-implement package, giving businesses a good reason to take a fresh look at mobility. By placing a higher importance on 2-in-1 devices, Dell has been helping small businesses truly reap the benefits of a mobile and collaborative workplace. We are delighted to attend Microsoft's "Innovation Empowered" event to showcase out newest devices on Windows 10," said Emad Sallam, Client Solutions Marketing Manager, Dell | Middle East - Commercial. "We are delighted to continue our innovation journey with Microsoft by introducing our newest X1 family members at the event. Powered by Windows 10, the X1 portfolio is optimized with unique features and for greater performance, better cloud access and class-leading security and durability

to help businesses use technology as their secret weapon," said Mohammed Hilili, Lenovo General Manager for Gulf & Saudi Arabia. The Microsoft Innovation Summit welcomed more than 600 industry professionals and technology enthusiasts. The event saw discussions on subjects like Windows 10, Microsoft Surface Pro 4 for commercial customers, Surface Hub, apps, Windows enabled devices, and Internet of Things. As Qatar's leading communication company and preferred business services provider, Ooredoo enjoys a long-standing and multilevel collaboration with Microsoft, delivering a full range of solutions for consumers and businesses, supported by the nationwide Ooredoo Supernet.

Microsoft bought keyboard app maker SwiftKey

The acquisition of the app, which is installed in more than 300 million Android and iOS devices, could also boost its AI projects. The keyboard uses predictive technology that claims to learn a user's personal writing style, adapts to unusual words or phrases that they commonly use and predicts what they will write next. SwiftKey said users have clocked up more than 23,000 years in combined typing time. Harry Shum, Executive Vice-President, Technology and Research, at Microsoft said: "We'll continue to develop SwiftKey's market-leading keyboard apps for Android and iOS as well as explore scenarios for the integration of the core technology across the breadth of our product and services portfolio. "Moreover, SwiftKey's predictive technology aligns with Microsoft's investments and ambition to develop intelligent systems that can work more on the user's behalf and under their control." Other plans for SwiftKey, whose team will join Microsoft as part of the deal, include integrating its technology into Microsoft's own Word Flow keyboard. The fresh focus on software comes after more bad news for Microsoft's Windows Phone ecosystem. Despite buying Nokia's handset arm in a

high-profile deal in 2014 for €5.4 billion, sales have been lacklustre. Last week it announced its Q4 Windows Phone sales were 4.5 million, down 57 percent from the previous year. According to figures from venture capital firm Andreessen Horowitz's Benedict Evans, over its lifetime, Windows Phone amassed 110 million sales, compared to combined iOS and Android sales of 4.5 billion during same period. Tim Coulling, Canalys Senior Analyst, was also pessimistic the future of the Windows Phone ecosystem, even if it tries to follow the success of Microsoft's Surface tablets. He said: "Creating a premium Surface Phone might generate some buzz about the platform, but it will be risky and repeating what it has achieved in the tablet space will be tough. It must get OEMs to buy into a platform in decline as well as convince consumers to switch from an iPhone or high-end Android smart phone."

Cisco to acquire Jasper for $1.4bn

Jasper CEO Jahangir Mohammed to lead networking giant's new IoT software division; deal expected to close in third quarter. Cisco ramped up its Internet of Things (IoT) strategy on Thursday with the US$1.4 billion (€1.26 billion) acquisition of IoT platform provider Jasper. Headquartered in California, Jasper boasts 3,500 enterprise customers and 27 operator partners, and reaches 100 countries. It provides IoT connectivity and related services to a number of verticals, such as logistics, retail, and home automation, among others. Jasper also has a big presence in the automotive sector, underpinning AT&T's connected car service, and providing IoT services to Tesla's range of electric vehicles, for example. "I am excited about the opportunity for Cisco and Jasper to accelerate how customers recognize the value of the Internet of Things," said Chuck Robbins, Cisco CEO, in a statement. "Together, we can enable service providers, enterprises and the broader ecosystem to connect, automate, manage, and analyse billions of connected things, across

any network, creating new revenue streams and opportunities." Cisco said it intends to add new capabilities to Jasper's IoT service platform, such as enterprise WiFi, security for connected devices, and advanced analytics to better manage device usage. Jasper will form a new division within Cisco called the IoT software business, and will continue to be led by Jasper CEO Jahangir Mohammed. He will report to Rowan Trollope, SVP and general manager of Cisco's IoT and collaboration technology group. The deal is expected to close in the third quarter of this year. "IoT has become a business imperative across the globe. Enterprises in every industry need integrated solutions that give them complete visibility and control over their connected services, while also being simple to implement, manage and scale," Mohammed said. "By coming together, Jasper and Cisco will help mobile operators and enterprises accelerate their IoT success." It is worth speculating about whether this acquisition will affect Ericsson's go-to-market strategy for IoT. In November, the Swedish kit maker established a wide-ranging strategic partnership with Cisco that will see the companies offer a combined, end-to-end product and services portfolio that spans mobile, enterprise, data centre, and IP network infrastructure, as well as network control and management, and global services. Ericsson and Cisco also agreed to conduct joint R&D in a number of areas, one of which is IoT. Ericsson offers network software designed to optimize the performance of IoT devices. It is also active in several IoT industry groups, such as the NB-IoT Forum and the GSMA's Mobile IoT Initiative. Ericsson is also developing a technology called network slicing, which partitions a single physical network in multiple virtual networks with capacity and coverage tailored to meet the individual requirements of various industry verticals. The initial focus for Ericsson and Cisco's partnership is on service providers; however, they plan to extend it to enterprises, and specifically refer to accelerating IoT uptake. It will be interesting to see whose IoT services take centre stage when the time comes.

Huawei partners with DIC to set up regional HQ

Chinese electronics giant, Huawei has pledged to fully support UAE's vision, to become an innovation-led economy and a Smart City by establishing a multi-billion dirham regional headquarters in Dubai. The Chinese company is fully supporting the UAE's digitization agenda by strengthening its respective services, disclosed Charles Ding, Senior Vice President, Huawei. Huawei announced its partnership with Dubai Internet City (DIC), a member of TECOM Group, to set up its national headquarters within the region's largest ICT (information and communication technology) and technology community. The long-term investment for the new headquarters will serve as a platform to build upon Dubai's knowledge economy, as well as support the Emirate's vision to become a Smart City. Huawei has established an end-to-end ICT solutions portfolio in the UAE that can add value and support the building of a knowledge economy and make the UAE's digital transformation possible. The multi-storey complex will be build within the Dubai Internet City and will accommodate modern infrastructure to cater to the burgeoning UAE youth population. David Wang, CEO of Huawei Technologies UAE, noted that Dubai has attracted the world's attention through many ambitious and successful innovative infrastructure projects. Huawei is delighted to have contributed to the development of the country's ICT industry during this time. Besides the innovative technology solutions Huawei also plans to develop the human capital especially the youth population for a wider regional and global community. The company has invested $6.6 billion (Dh24.2 billion) on R&D in 2014 compared to $5.1 billion in 2013. Majed Al Suwaidi, Managing Director of Dubai Internet City and Dubai Outsource City, after the signing

ceremony that the innovation strategy set by the UAE is bearing its fruits now as more companies are putting more of their innovation capabilities on the ground right now.

Cisco predicts video will represent 75% of global mobile data traffic by 2020

Cisco's latest annual Visual Networking Index forecast (VNI) has revealed that the growth of mobile data traffic is faster than ever, with video taking up an even larger share. In the 2016 VNI, Cisco calculates that by 2020 total traffic will reach an annual run rate of 30.6 Exabytes per month, the equivalent of what is stored on 7,641 million DVDs or seven trillion online video clips. Moreover, the forecasted incremental amount of traffic being added to the mobile Internet, between 2019 and 2020, is expected to hit 8.9 Exabytes per month, more than two times the estimated size of the entire mobile Internet in 2015. At the heart of this explosion is mobile video, which will have the highest growth rate of any mobile application. By 2020, said the Cisco Visual Networking Index (VNI) Global Mobile Data Traffic Forecast (2015 to 2020), mobile video will represent three-quarters of global mobile data traffic, up from 55% in 2015, as video streaming increases in popularity over traditional TV. In the

UK alone, mobile video will be 77% of the mobile data traffic by 2020, compared to 59% at the end of 2015. Whilst Cloud applications will account for 92% of total mobile data traffic by 2020 The research suggests that users' demand for higher video resolution, more bandwidth, and processing speed will increase the use of 4G connected devices which are set to represent more than 70% of all mobile traffic, and 4G connections will generate nearly six times more traffic per month than non-4G connections by 2020. "With the ever-increasing billions of people and things that are being connected, mobility is the predominant medium that's enabling today's global digitization transformation," said Doug Webster, vice president of service provider marketing, Cisco. "Future mobile innovations in cellular, such as 5G, and Wi-Fi solutions will be needed to further address new scale requirements, security concerns, and user demands. IoT advancements will continue to fuel tangible benefits for people, businesses, and societies."

PTCL to provide free broadband to Pakistan Sweet Homes

Pakistan Telecommunications Company Limited (PTCL) has provided free broadband services to Pakistan Sweet Homes, a non-profit organization established by the Bait-ul-Mal for the care of young orphans. In this way, PTCL will enable orphans to become contributing members of society. Under the scheme, PTCL has provided high-speed broadband connectivity free of charge to 12 Sweet Homes located in all the four provinces for a period of three years. The Sweet Homes are in Sargodha, Gujrat, Okara, Attock, Karachi, Nawabshah, Mansehra, Mardan, Swat, Kohat, Zhob and Quetta. Sikandar Naqi, Chief Business Development Officer PTCL, has reiterated the company's goal towards achieving various social objectives and has emphasized the role the Broadband service will play in the mental development of the children. "State-of-the-art ICT services will definitely help the Sweet Homes

to transform children into individuals who are not only self-reliant and financially independent but who are also adept at social integration," Naqi said. "By providing an enabling environment, PTCL has encouraged the Sweet Homes children to learn and become better citizens," he added. Pakistan Sweet Homes is a non-profit organization committed to the care and upbringing of nearly 100 orphans aged between 4 and six years. Located in various parts of the country, Sweet Homes offer food, clothing and shelter as well as free education, medical care and counseling/legal aid to young victims of violence and abuse.

Orange Business Services inks M2M deal with Canny Quest for e-payment in Iraq

Orange Business Services has signed an M2M agreement with Canny Quest International, the Dubai-based technology and business development partner of International Smart Card (ISC) in Iraq. ISC has created a new model for e-payment services using smart cards using biometrics to authenticate customer ID and counter the risk of fraud. Orange Business Services provides SIMs that enable connectivity to support ISC's 6,000 terminals at points of service (POS) across Iraq, and another 8,000 POS are planned at retail merchants by mid-2016. ISC plans to roll out services to the Iraqi diaspora and to other countries. The ISC POS terminals are connected to the card management system, which validates transactions through the Orange network. Orange interconnects with all the country's mobile telecoms operators to ensure national coverage and optimized signal quality. ISC customers can access a range of virtual financial account management services including smart cards (closed and open loop), mobile apps and wallets and the internet. Philippe Koebel, senior OBS VP for Emerging Markets and Indirect, said the new partnership with Canny Quest International is supporting innovation and a digital transformation, leading

to a new model for the banking sector in Iraq.

Cisco Visual Networking Index forecasts 8-fold surge in mobile data

Mobile data traffic will surge 8-fold over the next five years, according to Cisco Visual Networking Index (VNI) Global Mobile Data Traffic Forecast (2015 to 2020). The growth in mobile data traffic will be mainly due to the increase in mobile users, smart devices, mobile video and 4G networks. Cisco Visual Networking Index report did not mention about 3G powered data growth. Incidentally, several Indian telecom operators such as Bharti Airtel, Idea Cellular, Vodafone, Tata Docomo, Reliance Communications and Aircel are making investment in their 3G networks across the country. Airtel, Idea Cellular, Vodafone and Reliance Jio Infocomm are investing in 4G networks looking at revenue from mobile data business. Global telecoms such as Verizon, AT&T, China Mobile, Vodafone, America Movil, Telefonica, TeliaSonera need to invest more in network to manage mobile traffic growth indicated by Cisco Visual Networking Index. 4G connectivity share will surpass 2G by 2018 and 3G by 2020. 4G will represent more than 70 percent of all mobile traffic, and 4G connections will generate nearly six times more traffic per month than non-4G connections by 2020, according to Cisco VNI. Martin Bradley, director at Strategy Analytics, in its latest report, suggests that mobile operators need

to start investing in 4.5G networks to look for additional revenue streams.

Cisco Visual Networking Index says smart mobile devices and connections will represent 72 percent of mobile devices and connections by 2020 against 36 percent in 2015. The number of mobile users will grow to 5.5 billion, representing 70 percent of the population by 2020, according to Cisco VNI. Smart devices will generate 98 percent of mobile data traffic by 2020. Smartphones will account for 81 percent of total mobile traffic by 2020 against 76 percent in 2015.

Regional Mobile Data Traffic Growth Rates (2015–2020):

• The Middle East and Africa (15-fold)
• Asia Pacific (9-fold)
• Central and Eastern Europe (8-fold)
• Latin America (8-fold)
• Western Europe (6-fold)
• North America (6-fold)

Mobile video will have the highest growth rate of any mobile application. Consumer and business users' demand for higher video resolution, more bandwidth, and processing speed will increase the use of 4G connected devices. Global mobile data traffic will reach 30.6 exabytes per month by 2020 from 3.7 exabytes in 2015. Annual global mobile data traffic will reach 366.8 exabytes from 44.2 exabytes in 2015. Mobile data traffic, which was offloaded, will grow to 55 percent by 2020 from 51 percent in 2015. Over 75 percent of the world's mobile data traffic will be video by 2020. There will be 11.6 billion mobile-ready devices/connections—including 8.5 billion personal mobile devices and 3.1 billion M2M connections against 7.9 billion total mobile-ready devices and M2M connections in 2015. 67 percent of mobile devices / connections will be smart by 2020 against 36 percent in 2015. 98 percent of mobile data traffic will come from smart' devices / connections by 2020 against 89 percent in 2015. According to Cisco VNI, smartphones, laptops, and tablets will drive about 92 percent of global mobile data traffic by 2020 against 94 percent in 2015. M2M traffic will represent 7 percent of mobile data traffic by 2020 against 3 percent in 2015. Basic handsets will account for 1 percent of mobile data traffic by 2020 against 3 percent in 2015. 66 percent of mobile devices / connections will

be IPv6-capable against 36 percent in 2015. IPv6 traffic will be 54 percent of mobile data traffic against 13 percent in 2015. M2M connections will represent 26.4 percent of mobile-connected devices against 7.7 percent in 2015. M2M connections will generate 6.7 percent of total mobile traffic against 2.7 percent in 2015. Global wearables will grow six-fold from 2015 to 2020. There will be more than 600 million wearable devices in use by 2020 against 97 million in 2015. Average global mobile network speeds will increase 3.2 fold 6.5 Mbps in 2020 from 2.0 Mbps in 2015. 4G adoption is the primary catalyst for mobile speed improvements. 4G connections will account for 40.5 percent of mobile connections against 13.7 percent in 2015. 3G connections will account for 38.7 percent of all mobile connections against 33.7 percent in 2015. 2G connections will account for 13.5 percent all mobile connections against 52.3 percent in 2015. 4G traffic will grow 13-fold from 2015 to 2020. 4G connections will account for 72 percent of total mobile data traffic against 47 percent of total mobile data traffic in 2015. Wi-Fi hotspots, including home spots, will grow 7X to 432 million in 2020 from to 64 million in 2015. Home spots will grow from 57 million in 2015 to 423 million in 2020. VoWi-Fi will exceed VoLTE in the number of minutes used per year by 2016. VoWi-Fi will exceed VoIP in the number of minutes of used per year by 2018. VoWi-Fi minutes of use will account for half – 53 percent – of all mobile IP voice traffic by 2020. The number of Wi-Fi-capable tablets and PCs at 1.7 billion will be more than three times the number of cellular-capable tablets and PCs at 548 million by 2020.

Omantel partners with BP Oman for 2,800 sq-km Khazzan Project

Omantel, the leading provider of integrated telecommunication services for the oil and gas sector in the Sultanate announced a strategic partnership with BP Oman. The agreement calls for a comprehensive telecommunications

network to be constructed for the Khazzan Gas Project located between the Ad Dhahirah and Ad Dakhiliya Governorates, and provides for a communications network spanning an area of 2,800 square kilometers. Commenting on the scope of the Khazzan Gas Project, Ahmed Mohammed Al Nasri, General Manager of Sales at Omantel Business noted, "Our partnership with BP highlights Omantel's deep experience in meeting the needs of clients in the oil and gas sector, who are often located in very remote regions of Oman. Deploying our technical experience and expertise on this project means that BP Oman will be able to conduct instantaneous well monitoring, while onsite staff will be reliably connected with high quality mobile and fixed solutions, and internet broadband." Omantel's project scope is to design, deploy and maintain a comprehensive suite of telecommunication systems, ensuring seamless voice and broadband connectivity to cover the populated Khazzan gas field catchment area. Once operational, the network will be delivering the highest quality of fixed and mobile voice and high speed broadband solutions (LTE and GPON) for BP Oman and its contractors on site. During the project startup phase, telecommunication services will be initially supplied through a series of microwave links due to its high flexibly in providing connectivity without getting impacted by the massive project work on ground. This setup will then transition to a permanently installed fiber optic network in a self-healing rings topology, with the microwave links retained as a system backup. Ahmed Al Nasri added, "The Khazzan field covers some 2,800 square kilometers, which is a land area larger than an island like Zanzibar, so the geographic reach of this project is very extensive. The Omantel Business team has been working closely with BP Oman to map out the communications solution needed to meet their exacting technical requirements as the Khazzan project takes shape. This partnership underlines our unique abilities to tackle projects of a challenging nature, enabling our customers to remain connected locally and globally by providing the best-in-class communication services." The Khazzan gas field-Block 61 is operated by BP Oman with 60% shares in partnership with Oman Oil Company Exploration

& Production holding 40%. The development of the project involves a 15 year drilling programme for around 300 gas wells which will ultimately deliver a daily production capacity of one billion cubic feet of gas, equal to around a third of Oman's total daily gas requirement. Construction work on the Khazzan Project is already underway with the first supplies expected in late 2017. Saif Al Sawafi, Regional IT&S Integration Manager at BP Oman noted, "Geographically, Oman has a challenging terrain, which often makes it difficult for our teams who operate in remote areas to stay connected and communicate within the Sultanate, or indeed with our colleagues around the world. Omantel has a unique and unrivalled experience in designing and operating communications networks in remote areas and we are confident that the Khazzan Project will benefit immensely from this new partnership,." Omantel is the Sultanate's first and leading integrated telecommunications services provider, enabling the digital society to flourish, allowing new ways of doing business and delivering a world of information, news and entertainment. Investing in the future of the nation, Omantel connects even the most remote communities of the Sultanate to each other and with the rest of the world. Today, Omantel boldly innovates to deliver the highest levels of customer satisfaction, the broadest and most reliable nationwide network while investing for Oman's future development. The Omantel Business Unit provides innovative communication solutions to meet the individual needs of corporate and public sector clients.

du University celebrates the graduation of its second batch of students

du University congratulated 71 fresh graduates, who completed their Mastery process from its 'School of Leadership' and 'Retail Sales & Service Academy', in a ceremony held at du HQ Salam Tower, du auditorium, and attended by members of du senior management. du University develops leadership, managerial and interpersonal skills for all, and sales and sales management skills for those attending the 'Retail Sales & Service Academy'. Speaking about this ongoing initiative, Ibrahim Nasser, Chief Human Capital and Administration Officer du, said: "Building tomorrow's leadership at all levels of our organization is critical to our future success. du University is at the core of our objectives to enhance our employee's capabilities. By engaging our employees in learning activities, not only are we directly contributing to growing the UAE knowledge economy, we are also enhancing our employee retention levels and improving customer service". More than 850 du employees have undergone training through du University in 2015. This year, du is aiming to engage 1000 employees in educational initiatives through du University. Courses are offered to employees at all professional levels. Launched in February 2015, du University aims to facilitate a transformation by changing mindsets and creating a seamless culture of service throughout the organization.

Orange invested JD200 million in its networks in 2015

Orange Jordan invested JD200 million in 2015 to upgrade its second and third generation networks, in addition to introducing Fourth Generation services across the Kingdom, the company's CEO, Jerome Henique said. The company will continue its investments in 2016 to upgrade services and its network, Hénique said

at a press conference. The company's investments in the upcoming stage fall in line with its Essentials 2020 strategy under which the company is scheduled to invest more than JD300 million between 2015 and 2018, including a JD200 million investment in its fixed and mobile network infrastructure.

PTCL Smart TV App nominated for GSMA 2016 Glomo Awards

PTCL's Smart TV Mobile Application has been nominated for the GSMA Global Mobile Awards (GLOMO) 2016 in the 'Best Mobile App (Media, Film, TV or Video)' category. The PTCL Smart TV App is the first of its kind and has been recognized for integrating live TV with such handheld devices as mobile phones, laptops and tablets. Nomination of the Smart TV App at this level is an indication of the progress achieved by PTCL in internet and multimedia. "Congratulations to all of the nominees for the 2016 Glomo Awards," said Michael O'Hara, Chief Marketing Officer, GSMA. "With more than 930 entries this year – a new record – the competition is greater than ever, reflecting the tremendous diversity and pace of innovation across the mobile world. We are particularly excited to be celebrating the 21st year of the awards with a dynamic new format that will recognize and honor achievement throughout Mobile World Congress." Commenting on the nomination, the PTCL Chief Commercial Officer, Adnan Shahid said that winning a global nomination in the category is a matter of pride for PTCL and the people of Pakistan. He further said, "Open Innovation is the key driver of growth in the global ICT eco-system and PTCL is leading this through such innovations as the Smart TV App. We made a conscious decision to allow the Smart TV app for all internet users of Pakistan. We will continue to work harder to maintain this momentum by bringing new world class products."

"Digital Entertainment is a core focus for us at PTCL. We understand the need for people to have entertainment on the go. PTCL Smart TV App adds that level of convenience to the lives of people in Pakistan," he added. The multi-screen App offers a variety of features and is convenient and user-friendly. People can access hundreds of live TV channels and up to 5,000+ hours (and growing) of content on the App for Video on Demand, Personal Video Recording, TV on demand and films. Interestingly, it also offers quick search options to access preferred TV shows and movies and is backed by a parental control facility. Smart TV App with its unique features has become the choice for broadcasters and producers to bring exclusive content only through Smart TV App. Recent Pakistani films, eJunior Content for kids are few to name. Previously, mega sporting events like Cricket World Cup 2015 was telecast ads free exclusively on the app. Currently, the Mobile App is available for download on both Android and iOS platforms. A PC-accessible version has also been added recently. The GSMA Global Mobile Awards is an annual event that is held to recognize efforts the world over for creating greater connectivity and accessibility. This year, the Awards will be held in Barcelona from February 22 to 25.

Batelco completes global network expansion

Bahrain-based Batelco, a major player in the telecommunications industry, has announced the completion of a major global network expansion project. The project allowed Batelco to grow its global business, ensure network diversity, avoid single points of failure, provide better country resiliency, and efficiently use international capacities. These aggressive expansion plans allowed Batelco to deploy new Points-of-Presence (PoPs) around the world, the company said. In 2015, Batelco formed strategic partnerships with high caliber companies such as datamena, China Unicom, Airtel, Turk Telekom, and many others. This further allowed Batelco to offer high value services to its customers by providing cutting edge solutions, it said. Batelco's global foothold has also been solidified with the company establishing its presence in all major areas of the world. The company's active Points-of-Presence (PoPs), strategic partnerships, and joint ventures (JVs) have enabled it to secure a multitude of projects connecting multi-national organizations in disparate locations across the globe, it said. Batelco's expansion project was shortlisted in Capacity's prestigious Global Carrier Awards for the Best Middle Eastern Project Award. "All our efforts are geared towards empowering customers to focus on their core operations, while their network is fully managed by Batelco as a single point of contact no matter where they are," highlighted Batelco chief global officer Adel Al Daylami. "This expansion project allows us to offer a superior customer experience to more businesses around the world. We can offer this experience, with our expanded network, as we have unique capabilities and experts in the project office, an advanced monitoring portal, and a high quality resilient network," Al Daylami added.

REGIONAL NEWS

REGIONAL UPDATES

Smarter use of digital skills and technology to boost UAE's economic output

Optimizing the use of digital skills and technologies could generate $2 trillion of additional global economic output by 2020, according to a new study by Accenture (NYSE: ACN). The study also reveals the vast role digital plays in economic activity, with more than one-fifth of the world's gross domestic product (GDP) attributed to some form of digital skills, capital and goods and services. The Accenture Strategy report, Digital Disruption: the Growth Multiplier, provides a new and comprehensive measure of the scale of the digital economy in 14 major countries. It estimates the value added to GDP by hardware, software and related technologies and by workers who need these digital assets to do their jobs. It also calculates the value of intermediate digital goods and services used in production. A little more than one-fifth (22 percent) of world output is linked to this digital economy of skills and capital. The US is the world's most digital economy, with existing digital investments accounting for 33 percent of its output. Forty-three percent of the U.S. labor force and 26 percent of its accumulated capital are capable of supporting digital related activity. The digital economy in other markets varies from more than 30 percent

in the UK and Australia to 13 percent in China. "Businesses and governments in the MENA region are turning to digital to secure faster growth amid an uncertain global economic outlook, but the size of the digital economy is no guarantee of growth," said Raymond Makhoul, Digital Strategy lead for Accenture in the Middle East and North Africa. "Organizations need to act aggressively in shifting the focus of their digital talent and technology from making efficiencies to creating entirely new business models. That requires not just greater digital investments, but broader organizational and cultural transformation in order to yield the greatest returns." The report states that in order to generate higher rates of growth, companies will need to improve their Accenture Strategy Digital Density score, which tracks the extent to which digital penetrates a country's businesses and economy. This includes digital skills and technology, as well as broader enabling factors such as the ease of access to finance and the openness of a country's regulatory environment. For example, a 10-point increase in the overall digital density of the UAE economy would result in a $8.9 billion uplift to 2020 GDP, 1.8 percent higher than current forecasts. But Accenture Strategy calculates that an optimal combination of improvements to digital skills, capital and other accelerators could lift UAE GDP by an even greater $13.8

billion by 2020, representing a 2.8 percent boost. The countries with the greatest opportunity for improving their overall digital performance are Brazil (6.6 percent), Italy (4.2 percent), Saudi Arabia (4.2 percent), China (3.7 percent) and Japan (3.3 percent). The study shows how each national economy could best prioritize its extra efforts to achieve the greatest boost to revenues and economic output. For example, 50 percent of UAE's extra digital efforts should be focused on the improved application of technology such as cloud and analytics, whereas 40 percent should be focused on digital skills, and 10 percent on accelerators that would support enabling the regulatory environment, the quality of education and the government incentives. In the US, however, just 10 percent of extra digital efforts need to be injected into technology, while a greater return will be gained from boosting digital skills and broader enabling factors. According to the report, platform business models represent one of the greatest opportunities for digitally driven growth. These models allow organizations to create new markets and uncover value by bringing partners and customers together across a common digital platform. In many cases, platform players can enjoy strong growth without having to own or manage assets, helping them expand with low marginal costs.

Batelco cancels plan to sell Jordan unit

Bahrain operator Batelco has cancelled plans to sell Jordan operator Umniah, Batelco's CEO told Reuters, citing market conditions as it instead aims to make acquisitions itself. CEO Ihab Hinnawi said the company is terminating the sale process since it's not an optimal time to sell or buy. Hinnawi said prices are reducing, the appetite of so many big players is declining and many are over-leveraged. In January, Batelco revealed it had received non-binding bids for Umniah, which accounted for a fifth of the parent's 2015 revenue and in which it holds a 96 percent stake. Hinnawi said Batelco has a healthy balance sheet and it's priorities are to cut costs, increase efficiency, assess potential new business areas and assess existing assets. He wants to expand into smart

home services, mobile money, mobile health, mobile television and cloud services. Batelco will buy companies, forge partnerships or go in-house to offer these. Hinnawi predicted so-called adjacent services will provide about 15 percent of revenue in 2019-2020, up from 5-8 percent currently. Batelco also is expanding its domestic fiber network, which could be its revenue driver in Bahrain, Hinnawi said. This will lift capital expenditure above 20 percent of revenue in 2016, although the longer-term average would be about 15 percent.

Saudi Telecom's revenue up by 11% in 2015

Saudi Telecom Company (STC) has posted a net profit of SAR9.258 billion (USD2.47 billion) for the twelve months ended 31 December 2015, a decrease of 15.5% from SAR10.959 billion in the year-ago period. STC attributed the decline in net profit to a SAR2.64 billion increase in cost of services and a SAR1.96 billion increase in operating expenses during 2015, which was mainly due to: the booking of a SAR406 million impairment related to an early-retirement program; a SAR306 million in losses on the sale/disposal of property, plant and equipment; and a SAR560 million rise in miscellaneous expenses. Gross profit for the twelve-month period totaled SAR30.343 billion, up 7.8% from SA28.156 billion in 2014. Revenue from services rose 11.8% year-on-year in the fourth quarter of 2015 to reach SAR13.246 billion, and for the twelve-month period turnover amounted to SAR50.837 billion, an increase of 10.9% from SAR45.826 billion the previous year.

Twenty cellular operators in nine Arab countries commercially launched LTE

During the period between May 2014 and October 2015, the number of operators providing LTE services had increased by three operators across the Arab World. By October 2015, Long Term Evolution (LTE) was available in nine countries in the Arab World, including all GCC countries, namely, Algeria, Bahrain, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia and the UAE. In

November 2011, Saudi Arabia was the only country offering LTE services, and UAE's Etisalat had just completed the deployment of its LTE network, but had not yet offered the services commercially. Whereas in October 2015 twenty operators commercially offered LTE services to their customers. In addition to the twenty operators providing LTE services in the Arab World, the Kurdistan region in Iraq has commercially launched LTE services. Umniah Jordan began construction of its LTE (4G) networks and will launch the service in early 2016, with comprehensive coverage of all populated areas in the Kingdom.

Pakistan media group to buy stake in telecoms service provider, WorldCall

Dunya Group has bought 70% shares in WorldCall from Omantel for an undisclosed amount, reports local news website, ProPakistani. Reports suggest that deal between Dunya Media Group and Omantel — that had 70% shares in WorldCall — was signed yesterday and details are likely to be made public during next few days. It merits mentioning here that 12% shares in WorldCall reside with Salman Taseer (late) while another 18% shares are floated publicly in Pakistan Stock Exchange. Omantel had bought 65% controlling stakes in WorldCall in 2008 for $193 million. It later bought preferred shares of the company as well. WorldCall has been in deep financial crisis for past six years as its overall loss figures currently stand at Rs 2.95 billion by end of September 2015. Sources said the present management of the WorldCall was convinced by Dunya Group to divest its shares to a new buyer as soon as possible as multiple options were unsuccessfully experimented to drag the company out of its financial quagmire. In 2014, the Group decided to sell out its Wireless Local Loop infrastructure for Rs. 2.17 billion, however, talks didn't go through. WorldCall operates cable and digital TV service, EvDO, DSL, WLL and LDI service under various brands. Dunya Group, through this investment, hopes to secure an upcoming DTH license, which WorldCall's cable business is contesting to win.

Mideast IT spending by banks to rise during 2016

IT spending by banking and securities firms in the Middle East and North Africa (MENA) will be approximately $12.5 billion in 2016, a 2.4 percent increase over 2015, according to Gartner. This forecast includes spending on internal IT services (including personnel), IT services, software, data center technologies, devices and telecom services. Software spending continues to have the fastest growth rate at 9.3 percent in 2016, followed by internal services at 4.7 percent. Banks are increasingly availing of advanced analytics across their business, while investments to enhance and strengthen digital channels continue moderately. Banks are enhancing their front-office solutions to empower the employees as well. "IT spending increases moderately in 2016, dampened by the low oil prices. Investments for high-priority programs in flight continue, while brand new initiatives will be selectively launched in 2016," said Rajesh Kandaswamy, Research Director at Gartner. Further information on the banking and securities industry IT spending is available in the Gartner report: "Forecast: Enterprise IT spending for the Banking and Securities Market, Worldwide, 2013-2019, 4Q15 Update". This vertical industries forecast provides total enterprise IT spending, including internal spending and multiple lines of detail for spending on hardware, software, IT services, and telecommunications for vertical industries and 43 countries within seven geographies.

Batelco revenues fall 4%, subscriber base shrinks by 5%

Bahrain Telecommunications Company (Batelco) has announced its financial results for full-year 2015, posting gross revenues of BHD372.4 million (US$956.5 million), down 4% year-on-year. The operator noted the fall was due to competitive pressure in a number of markets and the resultant loss of subscribers. Net

profit, meanwhile, remained in line with 2014, sitting at BHD49.5 million, though operating profit recorded a loss, decreasing by 10% y-o-y to BHD70.2 million. EBITDA for the year was negatively impacted by reduced operating results, dropping to BHD137.9 million, against BHD144.7 million one year earlier. In operational terms, mobile subscriptions increased in Batelco's domestic market, as well as in Jordan (via the operator's Uminah unit), and in the Maldives (Dhiraagu). Customer numbers declined by 21%, however, for cellco Sabafon due to the ongoing unrest in Yemen and a difficult operating environment, while Batelco's Saudi Arabia-based subsidiary Etihad Atheeb (GO Telecom) reported an annualized decline of 13% for its broadband operations due to intense competition. At the Sure-branded Channel Islands and Isle of Man (CIIM) division, Batelco noted 'strong consumer performance', causing mobile and broadband subscriptions to rise by 1% and 9%, respectively, and Dhiraagu's broadband services attracted 16% customer growth during the year. Overall Batelco's total subscriber base decreased by 5%, attributed to declining numbers in Yemen on the back of the challenging political environment. Batelco Group Chairman, Shaikh Hamad Bin Abdulla Al Khalifa, commented: 'We continue to face demanding market conditions across a number of our group's operations with the impact reflected in reduced subscriber numbers and negative revenue trends. While some of our operations ended the year on a positive note, the overall picture remains challenging. Nonetheless, we are optimistic that our cost transformation activities, investment in new networks including fiber and efforts to develop and strengthen our digital solutions portfolio, will ultimately boost subscriber numbers and the bottom line.'

Omantel postpones $130 million sukuk over high interest rates

Oman Telecommunications Co (Omantel) cancelled plans for what would have been a $130 million, five-year dual-currency sukuk issue due to high interest rates from lenders, the company's CEO Talal al-Mamari told Reuters. The sukuk was priced last month at a profit rate of 5.3 percent, after receiving commitments worth $82.1 million in the dollar tranche and

$47.9 million in the Omani rial tranche. But in a statement Wednesday to Muscat's bourse, Omantel announced it would postpone issuing the sukuk "at the present time." "The interest rates on the sukuk were higher than what we expected," Talal al-Mamari told Reuters. "We have taken the advice of our financial advisor that now is not the right time to issue the sukuk due to the current economic situation worldwide." Proceeds from the Sukuk would have helped to fund the company's new headquarters and to diversify its investment portfolio. Mamari said Omantel's investments would not stop, but did not give further details.

Algeria Telecom to participate in ITU international contest

An Algeria Telecom project for connecting to internet communities of less than 1,000 inhabitants, was selected by the International Telecommunication Union (ITU)

to participate in international contest "WSIS Project Prizes 2016," said Sunday Algeria Telecom in a statement. The project of Algeria Telecom has been selected "aims at connecting 1,321 villages with more than 1000 inhabitants with national fiber optic network before the end of 2017," said the source. This public service initiative, fully financed by Algeria Telecom, "intends to provide Internet access to citizens, businesses, schools and local communities in all regions of the country, notably in the most remote areas of extreme south of the country, "said the public operator. Organized annually by the ITU, this international contest is a competition on the information and communication technologies, which follows the World Summit of Information Societies (WSIS). The "Swis Project Prizes 2016" will be held in Geneva (Switzerland) from 2 to 6

May 2016 to reward the top 18 ICT projects spread over 18 categories.

Queen Maxima Lauds MoIT Efforts to Uplift Telecom Sector in Pakistan

Queen Maxima, who is also UN Secretary General's Special Advocate on Inclusive Finance for Development held a meeting with Minister of State for IT, Mrs. Anusha Rahman here in Islamabad. The Minister apprised Queen Maxima that the present government under visionary leadership of Prime Minister Nawaz

Sharif fully realizes potential of ICTs to spur socio-economic growth; and considers ICTs as a key enabler to achieve efficiency, transparency, good governance and empowering the people. The Ministry is pursuing with vision of accelerated digitization to transform Pakistan into a knowledge based economy. Our focus remains on ubiquitous development of ICT infrastructure across the country with special emphasis on serving marginalized segments of the society and bridging the digital divide. She said Ministry of IT has played its role as an important stakeholder with respect to provision of affordable telecommunication services, especially cellular mobile services, to help, interalia with improving access of un-banked people of Pakistan living in remote areas to the financial services. As a Policy priority, the Minister said the government has launched Next Generation Mobile (3G/4G) Services in Pakistan in 2014. On technology front, Pakistan has become at par with the developed world. Anusha Rahman said today Pakistan has more than 15% broadband penetration and growing as compared to less than 3% two years ago. Broadband (3G/4G) data has enabled huge opportunity for innovative products, apps and services particularly in social sector domains e.g. e/m-medicine, e/m-commerce, e/m-health and e/m-

learning, etc. The Telecommunication Policy 2015 is very much aligned with Post 2015 Sustainable Development Goals and the WSIS Action Lines. The Minister said the under-served and unserved areas are prime focus of the Ministry and all projects to provide connectivity for disadvantaged segments will be rolled out by early 2018. She said to benefit whole communities we are establishing 500 tele-centers for people of these areas through Universal Service Fund (USF). These tele-centers will not only create employability for local people but also provide them basic e-services i.e., e-commerce, e-health, e-education and e-agriculture. It will be a best model of public-private partnership for welfare of the people. She said our policy vision of accelerated digitization, which is very much aligned to the theme of "Digital Inclusion", is an indication of our commitment to development of opportunities for women empowerment through ICTs. As a special initiative for Girls, she said the Ministry has partnered with Microsoft Corporation to increase access for all girls particularly those extremely disadvantaged, to learn coding and computing skills. Considering the importance of e-payment gateway, Ministry of IT is focusing on making online transactions readily available to the buyers and sellers. E-commerce framework is also being prepared in collaboration with Ministry of Commerce, SBP and other stakeholders to unleash full potential of e-commerce for our economy. Queen Maxima highlighted the need of financial inclusion particularly women and marginalized segments and said financial inclusion plays a pivotal role in promoting inclusive economic growth through enhancing livelihood particularly for women. She said affordable smartphones for women are pivotal and in this regard, special incentives can be given by Public Private Sector, along with any additional fiscal measures as may be adopted. Queen Maxima appreciated the commitment and dedication of MoIT in pursuing the agenda of digital Pakistan and working for communities to have maximum connectivity that will also lead to financial inclusion. She offered International Community's full support for further initiatives of Government of Pakistan in this regard.

Iran cites Turkey as priority, proposes new economic plan

A senior Iranian official has cited Turkey as a "priority" in boosting trade relations in the aftermath of the removal of sanctions, proposing to establish a new economic plan for the development of overall economic ties. [This may also include cooperation and investment in the ICT and telecommunications sector.] "The Turkish state and government, which had stood with us during the implementation of sanctions, are of course among our priorities in this new process as the sanctions have been removed. We are aware of the capacity of Turkish companies and also of the capacity of Iranian companies. But in this new era we should introduce a new economic plan because the mechanisms that we had been utilizing during the sanctions will not respond to the necessities of this new era," Iranian Deputy Foreign Minister Ebrahim Rahimpour told Hürriyet Daily News in an interview Feb. 10. Iran has emerged as a new center of attraction for the world's largest economies, after the removal of sanctions allowed the oil-rich country to access more than $100 billion in assets abroad as well as increase oil and natural gas exports to consumers. In an interview Iranian ambassador to Turkey Ali Reza Bikdeli said the Iranian energy portfolio was up to $300 billion. With the removal of sanctions Iran is in the process of strengthening its economy while Turkey has lost some of its big markets, the Iranian diplomat said, adding, "We can therefore work together. Countries that had not stood with us during sanctions are now stepping forward. Why should Turkey, which stood with us during the sanctions, not be in front and stay behind?" The Iranian diplomat said a slowdown in bilateral economic relations was observed in 2015 but it was time to look ahead. "2015 has passed; we are now looking at 2016. Energy, trade, investments and industry are areas where we think we can go ahead," he said.

Omantel scraps plans for debut sukuk

Oman Telecommunications (Omantel), the Sultanate's incumbent telecoms operator, has decided not to proceed with its proposed USD130 million

debut sukuk issue 'at the present time', following recommendations from its advisors. Last month the company opened for subscription a five-year dual currency Islamic bond, but chief executive Talal al-Mamari told Reuters that the interest rates on the sukuk were higher than expected. 'We have taken the advice of our financial advisor that now is not the right time to issue the sukuk, due to the current economic situation worldwide,' he revealed.

Turkcell moving forward with Fintur acquisition

Turkey's largest cellco by subscribers, Turkcell, plans to continue with its effort to fully acquire wireless joint venture Fintur (inclusive of mobile operations in Kazakhstan, Azerbaijan, Georgia and Moldova), reports Bloomberg. Turkcell, which currently holds a 41.45% stake in the subsidiary, has already made a non-binding offer for the 58.55% stake owned by Swedish partner TeliaSonera. Turkcell CEO Kaan Terzioglu is cited as confirming that the company will follow this with another bid after completing due diligence.

As previously reported by TeleGeography's CommsUpdate, in September 2015 Turkcell declared that it was looking to appoint a strategic and financial advisor to explore the possibility of full acquisition of Fintur, while two months later the operator signed agreements to hire Citigroup and HSBC Holdings to advise on the acquisition. The decision followed TeliaSonera's announcement that it had initiated a process to reduce, and over time fully exit, its presence in its 'Eurasian' (CIS and Asian) markets.

Saudi cellcos in discussion to create JV tower business

Saudi Arabian cellcos Saudi Telecom Company (STC), Zain and Etihad Etisalat (Mobily) are reportedly in discussions to spin off their mobile towers assets into

a separate company, Reuters reports, citing Saudi Arabian financial news source Maaal. It is however unclear whether the new business would be owned jointly by the telcos, or whether they would sell it off to a third party. According to TeleGeography's GlobalComms Database, during 2011 STC and Mobily were said to be finalizing the details of a scheme to merge their respective cell tower businesses in order to save on infrastructure costs; completion was originally expected before end-2011, though talks subsequently stalled. More recently, in February 2015 Mobily issued a tender for advisory services to look at strategic options for the its towers portfolio, with bids understood to have been submitted shortly afterwards.

Zain Group's 2015 revenues down 6% to USD3.8bn

Kuwait-based telecoms group Zain has published its consolidated financial results for the year ended 31 December 2015, reporting a 6% annual decrease in revenues to KWD1.14 billion (USD3.78 billion), down from the KWD1.21 billion reported in the corresponding period of 2014. The company disclosed that the slump was mainly due to the recent appreciation of the US dollar against the Kuwaiti dinar, which affected revenues negatively by USD218 million in 2015. EBITDA declined to KWD499 million (down 2% year-on-year) in the period under review, while the company booked a net profit of KWD154 million in 2015, a 21% decrease on the profit reported twelve months earlier. Zain disclosed that additional amortisation on Zain Iraq's 3G licence fee and Zain Jordan's additional 3G and newly acquired 4G spectrum licence fees impacted the bottom line by USD52 million. CAPEX for the year meanwhile amounted to USD797 million (excluding Saudi Arabia), down 10% y-o-y from USD881 million in 2014, despite 'heavy investments' in 3G and 4G network expansion upgrades.

In operational terms, Zain Group reported a 3% increase in its consolidated customer base, which reached 45.6 million at 31 December 2015. In Kuwait subscribers increased by 9% year-on-year, to 2.9 million, while Saudi Arabia contributed 11.9 million users to the total subscriber base, equivalent to 32% y-o-y growth.

Elsewhere, Zain Jordan signed up a total of 4.1 million users, a 6% improvement compared to 2014.

Pakistan stands 4th in Average Monthly Call Charges-ITU

As per the International Telecommunication Union (ITU), Pakistan is the fourth country in the world where average monthly cost of running a mobile phone is quite reasonable as compared to rest of the world, regardless of being the eighth highest taxation telecom sector in the world. An average monthly cost in Pakistan is Rs 222.41 ($2.21) only.

942Mbps achieved in "4.5G" speed tests in Turkey

Vodafone's Turkish unit has announced a record speed of 942Mbps in tests utilizing LTE-suitable spectrum won in the August 2015 auction. Claiming a first for the country, the operator has applied 256-QAM (quadrature amplitude modulation) technology to frequencies aggregated across four bands – 800MHz, 1800MHz, 2100MHz and 2600MHz. Vodafone Turkey expects to launch commercial '4.5G' technology on April 1, 2016. As noted in TeleGeography's GlobalComms Database, Turkey's three incumbent mobile network operators (MNOs), British-owned Vodafone plus Turkish-owned Turkcell and Avea (Turk Telekom), each won 4G spectrum in the 26 August 2015 tender held by the Information and Communication Technologies Authority (BTK). Vodafone paid a total of USD869 million for spectrum in the 800MHz (2×10MHz), 900MHz (2×1.4MHz), 1800MHz (2×10MHz) and 2600MHz (2×15MHz) bands, valid for 14 years.

Pakistan's 3G/4G users jump threefold in 2015

Pakistan's five mobile operators

added about 16 million 3G/4G users last year, expanding the country's mobile broadband user base to 23.65 million, according to the Pakistan Telecommunication Authority (PTA). 3G/4G connections now account for nearly 19 per cent of total mobile connections, which increased by 1.65 million in December to end the year at 126 million, ProPakistani reported. Market leader Mobilink had a 29 per cent market share in Q4, followed by Telenor (28 per cent), Zong (19 per cent), Ufone (18 per cent) and Warid (8 per cent). Mobilink will widen its lead over Norway's Telenor after its planned merger with Warid, which will give it 47 million mobile connections compared with Telenor's 34 million. Only China Mobile-backed Zong and Warid offer 4G service. Zong has a slight lead over Warid (283,000 vs 214,000). Warid recently expanded its 4G coverage to 34 major cities. Zong said it has 4G coverage in all the major cities. The country's mobile teledensity ended the year at 65.3 per cent, while the number of total broadband subscribers increased to 26.3 million, the PTA said.

Nearly 40% of MENA businesses believe cyber breaches or insider threats are the fastest growing fraud risk

Cyber breaches and insider threats are the fastest-growing risks and are driving investment in Forensic Data Analytics (FDA) according to MENA executives. This is according to EY's 2016 Global Forensic Data Analytics Survey, Shifting into high gear: mitigating risks and demonstrating

returns. The threats and breaches include malicious insiders stealing, manipulating or destroying data. Sixty-nine percent say that they need to do more to improve their current anti-fraud procedures, including the use of FDA tools. Notably, this figure increased to 74% for the C-suite cohort. Of those respondents citing regulatory pressure as the reason to improve their procedures, C-suite respondents were found to be the most concerned as regulatory enforcement becomes more rigorous and widespread. Mike Adlem, MENA Fraud Investigation and Dispute Services Leader, EY, says. "Cybercrime and insider threats are an everyday reality, posing a dynamic and relentless challenge. In MENA, 40% of businesses consider this risk to have increased, however globally more than 60% of businesses say the risk has increased. This may be due to lower awareness in MENA as well as increasing regulatory pressures being applied in other regions. Businesses in MENA need to continue to raise risk awareness with management and prepare for the expected increased regulatory pressures that will be applied in the future. The use of FDA should form a critical component of risk management and compliance programs and be applied in both a proactive and reactive manner." When looking at the current use of FDA tools to investigate incidents or manage risk, the survey found that internal fraud risk ranks highest for the application of FDA at 77%, and cyber breach or insider threat risk ranks second at 70%. With just 55% of respondents saying that their FDA spend is sufficient, a drop from 64% in our 2014 survey, it is no surprise that three out of five say that they plan to

spend more on FDA in the next two years. When looking at the reasons for increased investment, the survey found that responding to growing cybercrime risks and increased regulatory scrutiny are the top drivers at 53% and 43%, respectively. How FDA tools are deployed is also changing, with 63% of respondents saying they invest at least half of their FDA budget on proactive monitoring activities. In response to these increased risks, the use of advanced FDA is becoming mainstream, with new technologies and surveillance monitoring techniques widely used to help companies manage current and emerging fraud and cyber risks. The rising maturity of corporate FDA efforts is also evident through the growing sophistication in their use of data. Seventy-five percent of respondents routinely analyze a wide range of structured and unstructured data, enabling them to gain a comprehensive view of their risk environment. Paul Marsters, Director, MENA Forensic Technology & Discovery Services, EY, says: "Given the level of pressure on fraud prevention that organizations in MENA are facing, it is no surprise that the majority of respondents are expending more effort on proactive initiatives. With technology becoming increasingly sophisticated, the opportunity to drive value from FDA efforts is improving. If the FDA plans are aligned with businesses investments in broader Data Analytics, then there is a great opportunity to raise FDA benefits case and awareness to executives." The survey was conducted with 665 executives globally across nine industry sectors, including financial services, life sciences, manufacturing and power and utilities.

Board of Smart Africa holds meeting

The third session of Smart Africa took place in Addis Ababa on this 31st of January 2016. Chaired by President Paul Kagame, the Board witnessed the signing of the Host Country Agreement by Rwanda's Minister of Foreign Affairs and Cooperation, Louise Mushikiwabo and Dr. Hamadoun Touré, the Executive Secretariat of Smart Africa. The signing of the Host Country Agreement seals the creation of the Smart Africa Secretariat and its Headquarters in Kigali. Commenting on the signing of the event, Dr. Hamadoun Touré said that the signing

of the agreement in just three weeks after the establishment of the office is a testimony of the dynamist, sense of urgency and commitment that founding fathers are placing on Smart Africa for the rapid development of the continent. While officiating at the opening of the session, President Paul Kagame commended his colleagues for championing their respective flagship initiatives that are positioning Africa for the 4th industrial revolution. "Africa is on the threshold of a truly connected future. Pooling our efforts and committing to accelerate digital talent development, support innovation, expand and interconnect our broadband networks ably demonstrates that trend," President Kagame said. The immediate implementation of One Africa Network is landmark decision taken by the Board, building on the successful experience of the One Network Area of the Northern Corridor of East Africa. Commenting on this milestone, President Macky Sall of Senegal emphasized the significance of One Africa Network as an accelerating factor for Africa's integration. The board noted the progress made in operationalizing the Smart Africa Scholarship Fund, thanked the contributors to the Fund and received pledges of all the remaining members. The Board of Smart Africa is composed of the Heads of States of 11 Member States and Heads of ITU and African Union Commission. The session in Addis was attended by Presidents Macky Sall of Senegal, Ibrahim Boubakar Keita of Mali, Uhuru Kenyatta of Kenya, Ali Bongo Ondimba of Gabon, Rock Marc Kabore of Burkina Faso and Edward Ssekandi, Vice President of Uganda. Also represented were the AUC, ITU, UNECA and AfDB.

Lebanon, Syria and Libya's telecoms rank worst for competition

Lebanon has the third-least-competitive cellular market in the Arab world after war-ravaged Syria and Libya, a clear indication that the country has made no real effort to modernize this vital sector. The Arab Advisors Group's Cellular Competition Intensity Index for 2015 ranked Lebanon in 17th place among 19 countries in the Arab world, unchanged from the 2014 index, but up from 19th place in 2013. Even impoverished Mauritania performed better than Lebanon, ranking 14th in this year's index for the Arab world. The report was carried by Lebanon This Week, the economic publication of the Byblos Bank Group. Lebanon was among seven countries whose rankings were unchanged from the 2014 index, along with Saudi Arabia, Jordan, Palestine, Iraq, Tunisia and Mauritania. The rankings of Bahrain, Kuwait, Yemen, the UAE and Libya improved year-on-year, while those of Egypt, Morocco, Oman, Algeria, Sudan, Qatar and Syria regressed from the 2014 index. Lebanon received a score of 41.83 percent in 2015, up from 40.76 percent in 2014, 40.71 percent in 2013 and 38.84 percent in 2012, but significantly below the regional average of 59.4 percent. Lebanon's score increased by 1.07 percentage points and posted the fifth-lowest increase regionally. All Arab countries posted increases in their 2015 score. The Arab Advisors Group considered Saudi Arabia as having the most competitive cellular market in the region as it hosts four operational and licensed mobile network operators in addition to two mobile virtual network operators. It also offers smartphone plans, corporate offers, 4G LTE services and international long-distance competition. In contrast, it viewed the Lebanese cellular market as a duopoly as it hosts two operators with a market share split of around 47 percent to 53 percent. It added that Lebanon offers 13 prepaid plans and eight postpaid plans, in addition to smartphone plans, corporate offers and 3G/4G LTE services. Lebanon, along with the UAE, Qatar and Syria have a duopoly cellular market, with the four countries ranking at the bottom of the index. The index uses a relative approach, as it rates the intensity level of competition in the region's cellular markets by comparing the state of every market relative to the other markets. "As such, even if a market's absolute level of competition improved, its score on the index will also depend on how other markets developed during the same period of time," the report added. The index, designed by the Arab Advisors Group, takes into account nine categories, with each category assigned a weight based on its importance as an indicator of competitive behavior. The categories include the number of licensed and expected operators in 2015, the number of working operators, the market share of the largest operator, the number of prepaid plans, the number of postpaid plans, the availability of smartphone plans, the availability of corporate offers, the availability of 3G/4G LTE services and the availability of international long distance competition.

REGULATORY NEWS

REGULATORY UPDATES

Regulators wrong to fear price rises from consolidation – Vodafone CEO

Colao backs European Commission on Denmark decision, sees no problem with planned Italian merger, but warns of conflicts in U.K. European telecoms regulators' fears over in-market consolidation bringing higher prices for consumers are misplaced, Vodafone CEO Vittorio Colao insisted on Monday. "The concern on pricing is overblown," he said, speaking to the media on the sidelines of Mobile World Congress. When looking at the potential impact of a merger deal, regulatory authorities should recognise that price is not the same as consumer spend, Colao said. In many cases, consumers are spending around 3%-5% more in return for 60%-70% growth in usage, he explained, while in others Vodafone wishes it could reach that 3%-5% mark. "To me, it looks like an excellent deal," he said. "We should look at the overall customer deal," rather than headline prices. The desire to mitigate the impact on the consumer wallet is usually the main focus of national competition regulators and the European Commission when it comes to deciding the fate of proposed M&A deals. Five months ago European competition commissioner nixed Telenor and TeliaSonera's plans

to merge in Denmark with a view to preventing a reduction in competition and the imposition of higher prices on consumers. Austria is often cited as a market in which prices have risen following the 2013 acquisition of Orange's local unit by Hong Kong's Hutchison. Not so, Colao believes. "[Prices are] going down everywhere, including Austria," he said. Nonetheless, Colao has few complaints about the European Commission's track record when it comes to mergers. "I don't think the Commission has been too aggressive with its stance," he said. "In Denmark there was a certain market structure," that gave the Commission cause for concern, he said. "In Italy it's a different case." Hutchison Europe and Vimpelcom formally notified the European Commission of their intention to merge their Italian fixed and mobile businesses, Wind and 3 Italia respectively, earlier this month. CoLao believe the deal will get the green light from Brussels. "I don't see problems," he said. However, he is less enthusiastic about the proposed merger between Hutchison's U.K. businesses, 3UK, with Telefonica's O2, largely because the two mobile operators are involved in separate network-sharing deals. "[That] conflicts with competition law," Colao said. "O2 and Hutch cannot pretend to sit on two different, exclusive," network partnerships.

India commission approves interim measure for spectrum liberalization

India's Telecom Commission has ruled that operators can liberalize 800MHz spectrum in the Rajasthan, Karnataka, Kerala and Tamil Nadu circles by paying the reserve price for the spectrum and matching the market-determined price for the airwaves following the conclusion of the next frequency auction, scheduled for June this year, the Economic Times writes. Operators with spectrum that was not purchased via auction must pay the government the market price for the airwaves before they can trade or share the frequencies. No market price is currently available for the 800MHz band in the four circles in question, however, as they were not auctioned in the March 2015 sale. As an interim measure, the regulator has allowed operators to liberalize airwaves in these areas by paying the base price and following up with the remainder once their market value has been determined by the auction.

India changes competition rules; approves active infrastructure sharing

India's Department of Telecom has changed competition rules to allow for active as well as passive infrastructure sharing, in a move expected to help operators reduce capex costs by up to 35%. The move to let operators share equipment such as mobile switching centers - as well as simply tower space - is also expected to help telcos reduce opex costs by around 5%, the Financial Express reported. The revised rules limit the infrastructure that can be shared to "antennae, feeder cable, Node B, radio access network and transmission system," a DoT directive states. Active infrastructure sharing will also allow mobile operators to act on spectrum sharing agreements. Rules allowing for spectrum sharing were introduced in September but operators had been unable to enact such agreements without allowing for active infrastructure sharing. The DoT has also recently introduced laws allowing for passive infrastructure sharing, but this was largely limited to enabling tower sharing agreements. The biggest beneficiary of the new rule

is expected to be 4G operator Reliance Jio Infocomm, which has already signed a spectrum sharing agreement with Reliance Communications and has yet to commercially launch services. But even operators without spectrum sharing deals will potentially be able to benefit by negotiating agreements to use existing infrastructure as they expand into new areas.

Telenor Pakistan raises concerns over Mobilink-Warid merger

Telenor Pakistan reportedly has raised concerns over the proposed Mobilink-Warid merger with the county's Competition Commission, which is reviewing the deal for regulatory approval. Mobilink's parent company, VimpelCom, announced in November it planned to merge its local unit with rival Warid Telecom, which would expand its market share from the current 29 per cent to about 37 per cent. Warid is the fifth largest player with 10.7 million connections and an 8 per cent market share. The commission confirmed that Telenor complained that the merger could "negatively impact the industry", which has faced high taxes that have curbed growth, ProPakistani reported. After receiving Telenor's complaint, the commission directed the country's mobile operators not to interact with the media or issue statements about the planned merger, which is under consideration, ProPakistani said. A decision could take up to 90 days, but a source told the newspaper it likely won't take that long. Telenor is number two with a 27 per cent market share and 33.8 million connections, according to GSMA Intelligence. Market leader Mobilink currently has a user base of about 36 million. If the deal is approved, it will be the country's first merger in the telecoms sector, which has nine players serving a user base of 127 million.

FCC alleges slamming, cramming targeting 'consumers with Hispanic surnames'

Staff at the Federal Communications Commission Enforcement Bureau last week proposed fines totaling $29.6 million against four long-distance providers accused of

slamming and cramming Hispanic consumers. Specifically, the FCC is calling out OneLink Communications, TeleDias Communications, TeleUno and Cytel, which while operating separately are actually all related companies. The companies are accused of slamming consumers, which means the companies switched the consumers' long distance carriers without authorization, and cramming customers, meaning the carriers added unauthorized charges to consumers' bills. Federal regulators also say the companies "fabricated audio recordings that they then submitted to the FCC as 'proof' the

consumers authorized these changes and charges." "Charging consumers for services they did not want or authorize is simply unacceptable," Enforcement Bureau Chief Travis LeBlanc said. "We are committed to combating slamming and cramming because these unjust and unreasonable practices result in consumers paying for services they never requested or received, and spending their time trying to reverse unauthorized carrier charges." The FCC tallied more than 140 complaints against the companies. According to the regulator, "Some consumers alleged that the companies' telemarketers pretended to be from the post office calling about a nonexistent package delivery to obtain information to create fake consumer authorization recordings. In other cases, it appears the companies impersonated individuals in the authorization recordings. The companies then allegedly provided the fake authorizations to the FCC in response to its investigation into the consumer complaints." The regulator body has classified the long-distance carriers' practices as "unjust and unreasonable" per the Communications Act. Further, the fake consumer authorizations violate applicable federal laws. 2014 was a banner year in its enforcement of cramming violations. Sprint that year was fined more than $100 million for

the practice while AT&T Mobility was also fined $105 million for adding unauthorized charges.

EU, US agree new privacy shield for data transfers

The European Union and the US have agreed on a new framework for protecting the privacy of personal data passed by companies between the two territories, the European Commission announced. To be known as the EU-US Privacy Shield, the agreement comes on the deadline of 02 February set by EU privacy regulators to reach an agreement. EU regulators said previously that without a new political agreement, they would start enforcing the court ban on the previous 'safe harbor' designation for the US. This was found by the EU court to not include enough safeguards to protect the privacy of EU citizens or offer them legal redress if their data was misused. Since then businesses have operated in legal uncertainty about whether they could still transfer data on EU customers to the US. The new arrangement will provide stronger obligations on companies in the US to protect the personal data of Europeans. US companies wishing to import personal data from Europe will need to commit to "robust obligations" on how personal data is processed and individual rights are guaranteed. The US Department of Commerce will monitor that companies publish their commitments, which makes them enforceable under US law by the Federal Trade Commission. In addition, any company handling human resources data from Europe has to commit to comply with decisions by European data protection authorities. The US also committed to ensuring that American authorities, such as law enforcement and national security forces, have access to personal data transferred from the EU only under clear conditions, when necessary and proportionate. The US ruled out indiscriminate mass surveillance on the personal data transferred to the US. To regularly monitor the functioning of the arrangement, the EC and US Department of Commerce will conduct an annual joint review, which will also include the issue of national security access. National intelligence experts from the US and European privacy regulators will be invited to participate in the review. Europeans who suspect their data may

have been misused in the US will be able to file complaints to a dedicated new ombudsperson. Companies handling the data will face deadlines to reply to complaints, and European regulators can refer complaints to the Department of Commerce and the Federal Trade Commission. In addition, alternative dispute resolution will be free of charge. The new ombudsperson will focus on complaints about possible access by national intelligence authorities. The agreement is still subject to a number of consultations before it is confirmed. European Commissioners Andrus Ansip and Vera Jourova will prepare a draft "adequacy decision" in the coming weeks. After obtaining the advice of the Article 29 Working Party, which unites EU privacy regulators, and consulting a committee of

representatives of EU states, the decision will be subject to clearance by the full European Commission. In the meantime, the US will make the necessary preparations to put in place the new framework, monitoring mechanisms and ombudsman.

Redistribution of telecom spectrum partly calms investors

Malaysia's decision to redistribute telecommunication bandwidth rather than hold an open auction will spare the mobile phone service providers from wading into an expensive bidding war, but it will still intensify competition in a cut-throat market. The Malaysian Communications and Multimedia Commission will assign the highly-prized 900MHz and 1800MHz spectrums among the country's four largest operators --Axiata Group's Celcom, Maxis, DiGi. Com and U Mobile -- and charge an unspecified fee, according to a statement from the country's telecommunication regulator. The news calmed investors who had

dumped telecom stocks after Prime Minister Najib Razak said on January 28 that the government will optimize revenue from telecommunication spectrum through redistribution and bidding process. The announcement had sparked fears of unforeseen hefty expenditure for the telecom players and triggered a selloff that wiped off more than $2.17 billion of market value of telecommunication companies on that day alone. "While this reallocation development is still a negative for the sector, we view the telco sell-down as an over-reaction as the impact may be lower than feared," said AmResearch analyst Alex Goh. Axiata, the country's largest telecom company by revenue, added 5.0% last week while Maxis, which has the largest subscriber base in Malaysia, finished Friday with 6.5% weekly gain and Telenor-backed DiGi. Com climbed 3.1%. Analysts note that separate disclosures by the respective companies show that Celcom and Maxis received lower spectrum holdings while both DiGi.Com and the unlisted U Mobile -- controlled by Malaysian gaming and retail tycoon Vincent Tan -- received higher allocation. While the fees are "unlikely to be exorbitant," the allocation will lead to heightened competition and potentially higher capital expenditure for the incumbents, said Chong Lee Len, an analyst at brokerage UOB KayHian. Celcom and Maxis collectively command more than half of the total mobile subscriptions in Malaysia, while Digi controls about a quarter of the market with the remainder is split between U Mobile and other smaller players. Mobile phone penetration in Malaysia is high at over 100% and more than half of the subscribers own a smartphone. But the industry is facing pressure to upgrade their equipment and offerings that includes rolling out latest fourth-generation mobile network due to rising use of video streaming and internet gaming. The massive capital outlay required to handle the surge in data traffic, however, have been eroding profit margins, and frequently sparking a price war among the top operators. BMI Research, a unit of Fitch Ratings, said the reallocation of the spectrum will "level the playing field" by allowing smaller operators DiGi.Com and U Mobile to further expand their third- and fourth-generation networks. That makes U Mobile better placed to challenge the top three, BMI Research said, noting that the extra spectrum will also enable U Mobile "to build its

subscriber base and stimulate higher consumption of data applications without compromising on network quality." To make up for the lower spectrum holdings, Maxis and Celcom are likely to ramp up investments to mitigate potential traffic congestion and deepen coverage, analysts say. That portends massive capital outlay that could crimp dividend payments. Overall, the absence of significant developments over the next six to nine months will cap any upside in telecom shares, said UOB Kay Hian's Chong "Our Market Weight stance (on the sector) reflects limited earnings upside and pedestrian earnings outlook for Celcom, Maxis and Digi in 2016, with earnings downside arising from spectrum reallocation and heightened competition," he added. Shares of Maxis ended 1.97% higher at 6.21 ringgit as investors continued to cheer last week's announcement of a 38% jump in October-December net profit on improved services revenue. Local markets were closed on Monday and Tuesday for Chinese New Year. Meanwhile Axiata shed 3.6% at 5.68 ringgit and Digi.com lost 2.98% to end at 4.88 ringgit in Kuala Lumpur trading while the benchmark FTSE Bursa Malaysia KLCI fell 1.09% to 1,644.41 points.

TRAI implements net neutrality regulations

The Telecom Regulatory Authority of India (TRAI) has published new regulations on net neutrality, prohibiting operators from providing discriminatory tariffs based on content. The ruling prohibits the provision of 'zero-rating' data services, where operators include unlimited free access to certain applications or websites, such as Facebook and Twitter, as part of a package. As a financial disincentive, the TRAI has set a flat penalty of INR50,000 (USD735.8) for each day that a provider contravenes the new regulations, to a maximum of INR5 million.

The new rules – dubbed the Prohibition of Discriminatory Tariffs for Data Services Regulations, 2016 – followed a public consultation on the matter of price differentiation in 2015. Summarizing feedback from stakeholders, the TRAI noted that on the one hand, price differentiation helps drive up internet penetration and lowers the cost of utilizing the internet, but on the other, it negatively impacts competition and transparency and would have 'far-reaching consequences...on the structure of the internet.' As such, the regulator has moved to impose a blanket ban rather than approaching the matter on a case-by-case basis: 'Keeping in view India's large number of internet users and content producers, both of which are rising exponentially, the Authority has taken a view that prohibition of discriminatory tariff for data services is necessary to ensure that service providers continue to fulfill their obligations in keeping the internet open and non-discriminatory.'

The regulations came into effect immediately (8 February), with the following caveats. Packs, plans or vouchers with unexpired validity subscribed by a customer before the start date of the regulations will not be affected, allowing customers to make full use of plans that they have already paid for. Further, providers may reduce tariffs for accessing or providing emergency services or at time of 'grave public emergency,' leaving the gate open for cellcos to offer free access to over-the-top (OTT) apps such as WhatsApp and Viber during natural disasters.

South Africa launches DTT migration process

South African government has announced a significant milestone in the analogue to digital terrestrial television (DTT) migration project by kick-starting the process of 'dual illumination', during which analogue and digital signals will coexist. TechCentral reports that the dual illumination period started on 1 February and is expected to last 'several years' until analogue signals are switched off at a future date, yet to be determined by cabinet. MultiChoice was the first provider to launch commercial DTT services by introducing its GOtv service via its subsidiary M-Net. The platform offers two standard definition channels for ZAR49 (USD3.1) or twelve channels for ZAR99; subscribers also gain access to free-to-air content from SABC, e.tv and community broadcasters. As previously reported by TeleGeography's CommsUpdate, the migration process, which was originally scheduled for completion in November 2011 in line with a Cabinet decision taken in 2007, has since been pushed back to 1 December 2013, and subsequently 17 June 2015 (the International Telecommunication Union's [ITU's] deadline for analogue switch-off). The country failed to meet the international deadline, though the cabinet pledged in December 2015 to initiate the project on 1 February 2016. Minister in the Presidency Jeff Radebe said at the time that the migration from analogue to digital broadcasting services would release 'the much-needed frequency spectrum' – suitable for the provision of 4G LTE mobile broadband services – and would increase the competitiveness of the South African economy.

Telecom operator urges Nigeria to prioritize Sustainable Development Goals agenda of the United Nations

Etisalat Nigeria Limited has called on governments across the country to prioritize meeting the critical development needs of the nation in their renewed efforts at achieving the Sustainable Development Goals agenda of the United Nations. Vice President, Regulatory and Corporate Affairs, Etisalat Nigeria, Ibrahim Dikko, made the call recently in Abuja while speaking at the seventh edition of the

thought leadership breakfast series, Sustainable Conversations, organized by Thistle Praxis Consulting in partnership with Etisalat Nigeria. Dikko lauded the UN-backed Sustainable Development Goals agenda, but noted that a country like Nigeria has to evaluate and priorities which goals constitute its most pressing needs and go for such without taking its eyes off the others in the UN-backed 17-goals agenda block. His words, "The SDGs are lofty and ambitious targets. I think the way around this is for countries to look for what is the most critical for them. Each country has its own priorities. For a country like ours that has a very young, up and coming population, our primary concern for now should be to focus on education, health, security, peace and justice, access to facilities, among others needs. That is not to say we should ignore the other goals and just focus on these. We should priorities and start with what is achievable now given the resources at our disposal." While assuring of Etisalat's commitment to strengthening partnerships with governments and their agencies towards achieving the development goals, Dikko disclosed that the company is leading a quiet revolution in providing telecommunications-focused education with training of students and lecturers in that field. "When we started operations in 2008, we realized that in our Universities, there were only such programs like petroleum, electrical, mechanical and chemical engineering, but there was no telecommunications engineering. In this 21st century, there is no way we can go forward and build capacity if we did not try and address that. So we started a partnership with ABU, Zaria to sponsor students to Masters' Degree programs in telecommunications engineering in partnership with Plymouth University, UK and the Etisalat Academy, UAE. We are also training some lecturers at PhD level so there can be capacity for knowledge sharing," he said. Also speaking, Country Director, PLAN International, Dr. Hussaini Abdu, who expressed delight at the prospects inherent in the goals, asserted that the attainment of the development goals can be fast-tracked with the active involvement of the organized private sector and other relevant segments of the Nigerian society. Other discussants included the Acting Regional Coordinator, Africa, UN Millennium Campaign/SDGs Action Campaign, Hilary Ogbonna; the Corporate Affairs Director, Unilever Nigeria, Soromidayo George; MD/CEO, Galaxy Backbone, Yusuf Kazaure; Deputy Director, Research and Statistics, Ministry of Science and Tech, Mr. Anyanwu Anselem representing the Minister for Science and Technology, Dr. Ogbonnaya Onu and Director, Centre for Sustainable Development (CESDEV), University of Ibadan, Prof. Labode Popoola.

AT&T seeks faster regulatory reform in Mexico

AT&T has, over the past 12 months, often praised Mexican authorities for regulatory reforms that seek to tackle the dominance of market leader America Movil and have as a result made the country a viable opportunity for newcomers like itself. But a senior executive at the company is now calling for faster change in the market, pointing out that the government's two-year-old reform efforts have actually had no impact on America Movil's market share. The Carlos Slim-owned telco has more customers now than it did when the regulator introduced asymmetric rules designed to curb its dominance two years ago, Thaddeus Arroyo, AT&T's Mexico chief executive, told Bloomberg in an interview. "The real question, and it's for the regulator to determine, [is] what additional conditions are needed to drive change faster?" the newswire quoted Arroyo as saying. Regulatory body the IFT announced in March 2014 that it was moving to tackle dominance in the telecoms and pay TV sectors and later imposed a series of new regulations on America Movil and Grupo Televisa. Initially, America Movil said it would sell off a portfolio of assets – sufficient to facilitate the entry of a new competitor into the market – but that plan never came to fruition. Meanwhile, AT&T bought its way into Mexico, snapping up third-largest mobile operator Iusacell and smaller player Nextel early last year. The IFT plans to review its anti-dominance rulings in March, and may introduce changes or add new measures, Bloomberg explained, adding that analysts believe it may be too soon for anything other than fine-tuning. Nonetheless, AT&T plans to share its thoughts with the regulator ahead of time. "Even with our arrival bringing competition and beginning the ultimate transformation of the market, the share is still disproportionately unbalanced," Arroyo said, in the report. He predicted that "it will take years" to bring balance to the market. According to the latest IFT figures, America Movil's Telcel served 69.5% of Mexico's mobile customers at the end of June, while Telefonica had 21.5% and AT&T 8.5%, with MVNOs making up the remainder. In the fixed market, America Movil had a 62% share at the same date, followed by Televisa with 19% and Telefonica with 7%.

Croatia's telcos to continue investments despite legal uncertainty and burdens on income

Croatia's three leading telcos – Hrvatski Telekom (HT), Vipnet and Tele2 Hrvatska – all expect to have a challenging year in 2016. However, reports Poslovni, they will continue to invest in infrastructure, advanced technology and innovative services. Meanwhile, the regulator HAKOM expects high-speed internet access to become available throughout the country this year. Davor Tomaskovic, the CEO of HT, said that the incumbent will invest even more than last year's HRK1.3 billion (€169.4 million) in infrastructure. At the same time, it is waiting for the removal of administrative barriers and for more legal certainty, as well as lowering excessive burdens on income, to help with this investment. Jiri Dvorjancansky, the CEO of Vipnet, said that the challenges in Croatia and Macedonia for Telekom Austria Group would be an opportunity to create a strong convergent challenger, while Malin Holmberg, the president of Tele 2 Hrvatska and executive VP of Tele2 Group for Central Europe, indicated that the beginning of 2016, like 2015, would be marked by significant investment.

Telenor Norway could be in breach of competition law

Telenor could face regulatory action after being hit with a statement of objections from the EFTA Surveillance Authority (ESA), which claims the

operator "may have abused its dominant position in Norway". In an announcement, the authority, which ensures Norway, Iceland and Liechtenstein adhere to rules set out in the European Economic Area (EEA) Agreement, said Telenor obstructed competitors in two markets involving the provision of mobile services to Norwegian users, and today issued a statement of objections setting out its preliminary conclusions. The statement of objections issued relates to Telenor's conduct in three segments; wholesale mobile access and origination services, the market for broadband services to residential customers, and in mobile communications services to business customers. Regarding the latter, the authority said it was concerned that clauses included in Telenor's contracts "have impeded competition by making it very difficult for its customers to switch providers", as well as making it overly expensive for competitors to take new customers from Telenor. ESA added that clauses implemented by the operator tie subscribers into the company for two years, and impose high penalty fees for premature termination, with the penalty exceeding any savings the customer may get on such a subscription. A look into lock-in clauses also related to Telenor's contracts with government customers. These particular objections relates to the company's activity from January 2008 to the present. On another point, the authority said Telenor's pricing of access and origination services at the wholesale level "likely impeded competing offers in the market for mobile broadband to residential customers". These points relate to the company's behavior between 2008 and 2012. "Companies that are dominant players in a market have a special responsibility to ensure that their business practices do not impede competition," said Frank Buchel, member of college – the authority's decision making body – with special responsibility for competition matters. "Where competition is impeded, consumers ultimately suffer from higher prices, lower quality and diminished choice and innovation and products and services." ESA added if the preliminary conclusions are confirmed, it may "adopt a decision requiring Telenor to cease the conduct in question", and it may impose a fine. Telenor has until 11 April to respond to the claims.

OFCOM CEO issues stern warnings over 3UK/O2 merger

Sharon White says deal may lead to higher prices, establishing a new fourth player would take time, investment. OFCOM CEO Sharon White on Sunday made clear her opposition to 3UK parent Hutchison's proposed acquisition of O2, warning that it could lead to higher prices, disruption to networks, and less choice for customers. Writing in the Financial Times, White said that U.K. consumers enjoy innovative services and some of the lowest mobile tariffs in Europe, thanks largely to four competitive mobile network operators, of which 3UK is the disruptive challenger. "Our findings show that average prices are around 10%-20% lower in markets with four operators and a disruptive player than in those with only three established networks," White said. "Austria's regulator says that, since the deal there [between 3 Austria and Orange], overall mobile prices have climbed 15% and by 30% for customers who only make calls and send texts." White also claimed that the 3UK/O2 merger could also jeopardize the network-sharing agreements between 3UK and EE – which last week officially became part of BT – and Vodafone and O2. In addition, the OFCOM chief pointed out that most phone contracts are sold in high street stores, with independent retailers accounting for a big share. She claimed that the proposed merger would shift the balance of power towards mobile operators and away from independent retailers, which help to constrain prices. With the mobile mergers that were approved in Austria and Germany, the European Commission applied remedies aimed at safeguarding competition, such as selling spectrum to facilitate a new market entrant, and providing wholesale network access on favorable terms. Similar remedies are expected should Brussels give the green light to the 3UK/O2 deal; however, "establishing a new mobile network might be one answer, but this would take time, and considerable investment," White warned on Sunday. She said OFCOM has submitted these arguments to the European Commission, which has set 22 April as a provisional deadline for deciding whether to approve the deal.

A SNAPSHOT OF REGULATORY ACTIVITIES IN SAMENA REGION

REGULATORY UPDATES

Algeria

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

Vincenzo Nesci, executive Chairman of Algerian mobile operator Optimum Telecom Algerie (OTA, Djezzy), has revealed that his company has been authorized by the government to deploy 3G services in all wilayas (provinces) of the country during the 'first months' of 2016. The announcement comes two weeks after rival Algerie Telecom Mobile (Mobilis) extended its 3G footprint to all 48 wilayas in the country. In December 2013 Djezzy revealed that its 3G network would be launched in four provinces in Q1 2014, due to delays caused by government interference, including a ban on Djezzy transferring currency abroad and restrictions on purchasing 3G equipment. The operator missed the self-imposed deadline, and belatedly introduced its 3.5G services in seven wilayas in July 2014, seven months behind rivals Mobilis and Ooredoo. Although Djezzy's 3G footprint has since been extended to 30 wilayas, its current coverage trails behind Mobilis (48 wilayas) and Ooredoo (36 wilayas). (

February 17, 2016) Maghreb Emergent

Algeria plans to embark soon on optical fiber production, CEO of Algeria Telecom Azouaou Mehmel told the Algerian Managers (FCE) Forum. "Algeria Telecom is in discussions with national industry groups for the local production of optical fiber and accessories that the company imports," said Mehmel, adding that the company will engage "soon" in partnerships with these industry groups for the production of optical fiber". He noted that the need of Algeria in terms of optical fiber is "very important", especially for domestic wiring. Mehmel also noted the existence of project for the local manufacturing of connection equipment such as terminals, modems, and some accessories. In this regard, AT plans to invest "more than DZD40 billion during 2016," the same official said. "Algeria is an extremely promising market, which aims to deploy to the international", he added. Algeria Telecom will soon launch an internet connection (fixed broadband internet) of 20 megabytes / s, also announced CEO of Algeria Telecom, Azouaou Mehmel. "The fixed broadband internet, now limited to 8 MB/s, will be increased shortly 20MB / s for all customers of AT," he said.

(February 10, 2016) allafrica.com

Bahrain

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

The Telecommunications Regulatory Authority (TRA) has issued its Resolution No. (18) of 2015 promulgating Regulation on the National Numbering Plan (NNP). The purpose of the Regulation is to approve and promulgate the updated NNP for Bahrain in line with the TRA's powers under the Telecommunications Law. This plan aims to conform with the relevant and applicable ITU standards to meet challenges faced by the changes in telecommunication environments, while promoting the efficient use of national scarce resources and protecting future developments and needs. TRA's Director of Technical and Operations Eng. Mohammed Alnoaimi stated that the updated NNP had been designed to be scalable and flexible in the sense catering for different challenges of multi-operator and multi-service environments for years to come without any change in its basic structure. He added that extra-simplified measures have been implemented in the Plan; in addition to, allowing more numbers to be allocated by operators addressing the growing demand of numbers and short codes in particular. The updated NNP can be viewed on TRA's website at www.tra.org.bh. TRA invites all concerned and interested parties to view the update plan. (February 14, 2016) newsofbahrain.com

The Telecommunications Regulatory Authority issued on December 31, 2015 a regulation on the SIM-card enabled telecommunications services registration. In the interest of the citizens and residents of the Kingdom, the Regulation aims to safeguard consumers from fraud and identity theft related crimes. On this occasion, the director of the Authority's Cyber Security Directorate, Dr. Khalid Bin Daij Al Khalifa was quoted stating that "The issuance of this regulation is an important step for the protection of the interests of all mobile subscribers. the Authority, in cooperation with the mobile operators, will take a number of measures designed to regulate the registration and verification process for consumers applying for SIM based telecommunication services in order to mitigate the rising number of identity theft and fraud cases." The regulation has also introduced a ceiling for the number of pre-paid SIM cards consumers may acquire, which has been set at 10 pre-paid SIM-cards as a maximum from each licensed mobile operators (Batelco, Zain, Viva); as such a total of 30 pre-paid SIM-cards per person can be obtained. TRA will also prevent the sale of SIM-cards in shops as the regulation only permits selling SIM-cards through the operators' outlets and their resellers who obtain a formal approval from TRA to conduct the registration and verification processes on behalf of the mobile operators. The new regulation will take effect within 7 months from the date of issuance. Simultaneously, TRA is preparing an awareness campaign for consumers, which will convey a number of informative messages. The focus will be mainly on educating consumers not to obtain SIM-Cards on behalf of others and refrain from leaving SIM-cards registered in their names at the disposal of others. Misuse of SIM-cards registered in the name of the consumers may make them subject to legal accountability. The consumers will be made aware to ensure that SIM-cards, without their knowledge, are not registered in their name with the licensed mobile operators. The campaign will also encourage residents and visitors to cancel any SIM-cards registered in their names in case they leave the country permanently. (February 7, 2016) zawya.com

Bangladesh

Chairman: Mr. Sahjahan Mahmud
[Bangladesh Telecommunication Regulatory Commission (BTRC)]

Telecom Regulator BTRC has set a new target for launching its delayed mobile spectrum auction in the 1800MHz and 2100MHz bands by the end of June this year, and has revised the guidelines in an attempt to attract operators previously unwilling to bid due to a tax disagreement and licensing costs. Mobile World Live reports that auction terms have been amended to allow participants other than existing Bangladeshi mobile licensees, while the reserve price for 1800MHz spectrum has been reduced by US$5 million to US$25 million per MHz, although the 2100MHz floor price has been increased by US$3 million to the same level. The sale plans were suspended last year after domestic cellcos failed to resolve the long-running 'SIM replacement tax' argument with the BTRC and the government, and a pending court case over the tax issue puts the regulator's new June 2016 auction target in doubt too. The operators had also questioned what they considered high base prices for spectrum as well as a lack of guidelines on technology-neutrality, as the 1800MHz frequencies are required for 4G LTE network development alongside 2G services. The likelihood of new entrants bidding for spectrum is thought to be low, as the market is crowded with six well-established players (albeit soon to be five with the merger of Robia Axiata and Airtel Bangladesh). (February 5, 2016) telegeography.com

Telecom regulator has revised its guidelines for the planned spectrum auction in an attempt to attract the country's mobile players to the sale, which was postponed several times last year due to a lack of interest from operators. The Bangladesh Telecommunication Regulatory Commission (BTRC) amended the auction terms to allow non-license holders to participate and has reduced the reserve price of the 1.8GHz spectrum by $5 million to $25 million per megahertz but increased the price of the 2.1GHz spectrum by $3 million to $25 million per megahertz. The BTRC aims to hold the auction this fiscal year, which ended June 30, but that appears to be ambitious. The regulator delayed the sale multiple times last year after operators failed to resolve the long-simmering SIM replacement tax issue with the regulator and the finance minster. A court case is now pending over the dispute. The operators have also balked at what they consider high base prices for the spectrum as well as a lack of guidelines on 'technology neutrality', meaning operators can use spectrum for any type of mobile technology (2G, 3G or 4G). The move to accept bids from non-operators was an effort to attract more bidders and make the auction more competitive, the BTRC said. But analysts noted it was merely an attempt to "spook" operators to join the sale. The likelihood of non-license holders bidding for spectrum in a market with six players is slim. The amended guidelines also call for an

'outcry auction', which involves verbal bids and offers as well as hand signals to convey trading information in the trading pits. The Post and Telecommunications Division reported earlier this week that it will miss its revenue target for FY2015 set at BDT73.6 billion ($912 million) since the sale of 1.8 and 2.1GHz spectrum couldn't be held this fiscal year. But it aims to hit its target for fiscal 2016, the Dhaka Tribune said. The division and regulator are under pressure from the finance ministry to hit its target to help the government's budget shortfall.
(February 4, 2016) mobileworldlive.com

Telecom Regulator BTRC will hold a public hearing on merger issue of Robi Axiata and Airtel Bangladesh Limited on February 17. The regulatory body yesterday formally announced the public hearing date and invited the people from different strata interested to participate during the hearing. Interested persons are requested to fill-up a prescribed form through online to participate the hearing by February 8, according to a BTRC circular issued yesterday. BTRC is going to arrange the public hearing on merger issue as per Bangladesh Telecommunication law 2001. On January 29, Robi and Airtel signed a merger agreement to venturing into a joint business operation in Bangladesh. The joint venture will be recognized as Robi. The Malaysia-based Axiata Group Berhad and India-based Bharti Airtel Limited inked the deal at Kuala Lumpur in Malaysia. Prime Minister's ICT Affairs Advisor Sajeeb Wajed Joy directed the BTRC to take public opinion before finalizing its Robi and Airtel merger in December last year while he sat with the high ups of the telecommunications division at secretariat. Joy also directed to form a committee to analyze the market at the same meeting. The commission already formed a two-member committee comprising two teachers. The regulatory body also sought opinion from others mobile operator in Bangladesh who submitted its opinion. After their last September agreed merger talks, the two cell phone companies submitted their joint application to Bangladesh Telecommunication Regulatory Commission that is now carrying out the review of the merger's impact on the existing telecom market. Rob and Airtel expect that they would get their required approval within the first half of 2016 to set foot in the market jointly. (February 1, 2016) dhakatribune.com

Iran

Chairman: Dr. Ali Asghar Amidian
[Communication Regulatory Authority (CRA)]

Iran has been in serious negotiations with foreign firms in the last three weeks. 'We have been in talks with France, Japan, Russia, and South Korea. One of the satellites is a national telecommunications satellite and other one is a national telemetry satellite,' the Minister Communication & IT told IRNA during a visit to Isfahan on Saturday. He welcomed the post-sanctions developments notably in the economic areas and said that foreign countries and companies did not negotiate with Iran on technology transfer. 'Things have changed and negotiations have started,' the minister added. Vaezi also said that following withdrawal of sanctions, Iran will have more options to choose its foreign partners so that prices decline, competition will increase, and Iran's conditions for importing high quality goods will be

accepted. 'We can use credit lines and will no longer use foreign exchange dealers,' he said. 'There will be a giant leap in the field of communications with implementation of the Joint Comprehensive Plan of Action,' said the minister. (February 7, 2016) zawya.com

Jordan

Chairman of the Board of Commissioners/ CEO: Eng. Ghazi Al-Jobor
[Telecommunication Regulatory Commission (TRC)]

The Jordanian government has confirmed that work to extend the National Broadband Network (NBN) to the country's northern governorates will commence in the next few weeks. The Ministry of Information & Communications Technology (MoICT) is currently assessing bids by several companies to extend the network, with a decision anticipated imminently. Nader Dhneibat, secretary general of the MoICT, noted that the governorates of Irbid, Ajloun, Mafraq and Jerash will be covered by the second phase of the project. Work on the network, which started in 2003 and of which 35% has been completed so far, has been halted several times over the past few years due to lack of funds. However, the government was able to float the tender for the second phase of the project after receiving a JOD90 million (US$126.6 million) grant from the Gulf Cooperation Council grant in 2014. (February 12, 2016) Jordan Times

Kuwait

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

Saudi Telecom Co (STC) has completed the purchase of a further 25.8 percent stake in Kuwait's Viva, Kuwait's stock market said. STC has "completed procedures to execute the deal to acquire shares in Viva," the bourse said. Kuwait's Capital Markets Authority had approved the acquisition of 128.86 million shares in Viva, the bourse said in a statement. The purchase price was equivalent to one dinar ($3.34) per share, it said. The deal raises STC's stake in Viva to 51.8 percent. (February 18, 2016) zawya.com

The Public Authority for Information Technology and Telecommunications plans to privatize the communication sector at the Ministry of Communication, including the needed infrastructure, landlines, long distance cables and telephone exchange centers, Board chairman and CEO Salem Al-Othaina. Othainah added that landlines are no longer run by governments anywhere in the world. Further, Othainah said that all executive, administrative and technical preparations have been done to allow launching the authority as soon as possible to be the sole executor of all the measures to be taken by telecom providing companies. Othainah added that the telecom authority would, from now on, take all responsibilities of the ministry and other relevant authorities concerning information technology and telecommunications as per law number 37/2014 that was amended by law number 98/2015 with the aim of developing the service and protecting subscribers' interests. (February 1, 2016) news.kuwaittimes.net

REGULATORY & POLICY UPDATES

Morocco

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

Mobile calls through the free application WhatsApp have resumed following a period of restriction after Morocco's three telecom providers blocked VoIP services through free applications. All of the services provided through this application, including VoIP calls made through 3G and 4G are fully functional. Moroccans launched a campaign on Facebook to boycott all three Moroccan telecom providers on January 16 and 17 following the block of VoIP imposed on applications such as WhatsApp, Skype and Viber. Maroc Telecom, Meditel and Inwi claimed that their telecom interests have been adversely affected by customers relying on free VoIP services rather than using the call feature provided by their telecom providers, while at the same time "foreign companies have been profiting" from these Internet-based services at the expense of Morocco's telecom companies. According to Article 1 of the National Telecommunications Regulatory Agency (ANRT/DG/N° 04-04) which addresses the protocol of VoIP services, the commercial provision of VoIP services to the public can only be done by telecom operators with a license. In a video posted on YouTube on January 13, Moroccans expressed the importance of these VoIP services in keeping families connected with their relatives and friends abroad. "Any restriction on these services means a restriction of communication between the families," said one of the interviewees. "The Internet is a free service that no one has the right to censor or confiscate," said another.
(February 4, 2016) moroccoworldnews.com

Nepal

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

Nepal reached 28.80 million voice telephony subscribers at October 18, up from 28.76 on September 18. The country's mobile voice subscriber base amounted to 27.1 million users at October 18, up from 27 million in mid-September, according to data from the Nepal Telecommunications Authority (NTA). The total includes 25.80 million GSM users in October, up from 25.77 million in September, with the remaining 1.31 million use Nepal Telecom's CDMA service, up from 1.29 in September. Nepal Telecom led the country's voice telephony services market in October, with a total of 13.51 million subscribers, followed by Ncell with 13 million. Nepal Telecom had 11.4 million GSM subscribers, and 1.31 million CDMA customers. Nepal had a mobile teledensity of 102.33 percent at mid-October, while fixed teledensity reached 3.20 percent.
(February 22, 2016) telecompaper.com

Oman

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

Telecom Regulatory Authority (TRA) has been urged by Dr. Ahmed bin Mohammed al Futaisi, Minister of Transport and Communications, to initiate the licensing process for the third telecom operator in Oman. In a tweet on his official twitter handle while announcing the move, Dr. Al Futaisi said the decision is aimed at boosting competition and providing more options to consumers. According to National Centre for Statistics and Information (NCSI) issued in the end of December reveals that the total number of fixed telephone lines, including post and pre-paid, public, WLL and ISDN channels, registered a growth of 13.7 per cent during the first ten months of 2015. Fixed telephone subscriber base stood at 426,558 by the end of October compared to 420,491 till December 2014, according to figures issued by the NCSI. Among fixed lines, pre-paid telephones witnessed the highest growth at almost 60 per cent. Pre-paid mobile connections recorded 6.4 per cent growth to reach 6,025,475, NCSI figures show. During the period, the number of Internet subscribers surged to 224,111 (growth of 24.4 per cent) due to a 25 per cent growth in fixed broadband subscribers that reached 221,283 by the end of October 2015. NCSI figures also show a growth of 7.6 per cent in active mobile broadband subscribers to reach 3,112,104. (February 14, 2016) timesofoman.com

Pakistan

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

In order to assess the current and future requirements of critical telecommunication infrastructure and services, Ministry of Information Technology (MoIT) and Pakistan Telecommunication Authority (PTA) organized a workshop on 'Regulatory Framework for Disaster Management using ICTs' in collaboration with International Telecommunication Union (ITU) at PTA Headquarters. Dr. Tamer Demir, ITU expert, BCM. Global, Turkey shared international best practices and standards on disaster management, emergency telecommunications and business continuity management. Representatives from MoIT, national and provincial disaster management authorities, PTCL, mobile operators and PTA attended this workshop. The Ministry of IT &T has undertaken an initiative to develop "Regulatory Framework for Disaster Management using ICTs" as part of a comprehensive National Disaster Telecommunications Plan. For the purpose, ITU, a United Nations Body, is providing technical assistance to Pakistan for preparation of an Emergency Communication Regulatory Framework. Pakistan has been prone to natural disasters like floods, earthquakes and other calamities that result into loss of life and property. The workshop has facilitated interaction of the ITU experts with the stakeholders of disaster management in Pakistan. The workshop also provided a platform for the stakeholders to share their views, ideas and ground realities of disaster management in Pakistan.
(February 18, 2016) pta.gov.pk

Upon request from Information and Communication Technology Institute (ICTI) to build the capacity and skill set on Mobile application development and mobile mediated solutions, International Telecommunication Union (ITU) and Pakistan Telecommunication Authority (PTA) are jointly organizing a training course from 16-26 February 2016 at PTA HQs, Islamabad. The main objectives of the training course are:

- To build human and institutional capacity in mobile application development and fill the gap which is the lack of skilled professionals in mobile application development in Afghanistan

- To train instructors of ICTI so they can introduce a course on Mobile application development at ICTI
- Analyse Case studies on different countries of Asia Pacific region, so that international best practices can be adopted
- Teach how to develop native applications on iPhone and Android devices/platforms

On the opening ceremony, Senior Advisor of ITU Mr. Sameer said "ITU is committed for ICT development in Afghanistan by building human and institutional capacity and developing skill sets for trainers of ICTI, by fostering international cooperation using expertise from Member State Pakistan leveraging the hands on practical experience from academia as well as industry experts for m-apps development that would serve as powerful tool for enhancing productivity , job creation and improving e-government / citizen services." Chairman PTA, Dr. Syed Ismail Shah told that the collaboration of ITU to support m- apps development is an excellent example of international cooperation involving UN Agency (ITU), neighboring countries and local expertise from PTA, NUST and mobile industry in Pakistan. He said that Pakistan is ready to share its policy and regulatory expertise with countries in the Asia-Pacific region and would be hosting international events and trainings in near future. Mr. Shahryar Khan from NUST, Pakistan is the lead developer of the training modules for 10 days extensive course using IOS and android platform. Mr. Khan also developed mobile applications for Bhutan working as ITU Expert in 2013.Mr. Muneeb Ahmed, CTO SWAM Tech and Ms. Iram Tariq Bhatti, CEO Lab Magic and Winner of ITU Young innovators competition, 2012 will also assist in conducting the workshop. Mr. Muhammad Faisal from Telenor Pakistan and Mr. Mudassir Nazar from Mobilink Pakistan have also contributed to the workshop and shared their perspective. The proven contribution of Information Communication Technologies (ICTs) to national socio-economic development has been the subject of numerous studies. ICTs and associated applications, including mobile applications, which have come to be known as "e government", "e agriculture", "e education", "e health", "e entrepreneurship", etc., contribute to development by enabling access to and exchange of information and services anywhere and anytime, by supporting the rapid processing and storage of information and by improving the provision of public and private services, including education and professional development, health, transport, industry, human rights, environmental protection, trade, road safety, urban management, transfer of information for social welfare, agriculture information and services, government services, entertainment, information services, and commerce in general, making them much more effective, efficient, accessible and affordable, especially for poor and marginalized populations. ICTs also enhance access to markets, and increasingly facilitate direct democratic participation. They provide more cost-efficient and effective ways to preserve and promote local culture. They not only bring down the costs of economic and social activities, for example by replacing transport and postal services, but open up

entirely new business opportunities. ICT applications and services are an important demand-side driver that can encourage the adoption of broadband services and can create a virtuous circle for broadband infrastructure development, where new types of content and applications drive an ever-increasing need for more bandwidth. (February 17, 2016) samenacouncil.org

A consultative meeting was held between Federal Minister for Kashmir affairs and Gilgit Baltistan Chaudhry Barjees Tahir and Minister of state for IT and telecom Anusha Rehman to discuss various aspects of policy directive for provision of Next Generation Mobile services to AJK & GB. Federal Minister Kashmir affairs and GB informed that Prime Minister has made it sure that AJK & GB will get 3G/4G services soon. (February 17, 2016) 3gca.org

Qatar

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

The Communications Regulatory Authority (CRA) is participating in the Mobile World Congress (MWC) in Barcelona, Spain starting February 22 till February 25. The CRA delegation will be headed by Mohammed Ali Al-Mannai, CRA's President. The MWC, organized by the GSM Association (GSMA), is the world's largest gathering for the mobile industry with more than 95,000 attendees and 2,000 exhibitors expected this year, among which are Qatari service providers. CRA President is attending MWC as part of the event's ministerial program. Aside from an exhibition, the MWC Conference examines the current and future of the mobile industry, highlighting specific areas of growth as well as the latest technological developments, next generation of services and growth strategies. Among the high profile MWC Conference keynote speakers are the CEOs of AT&T Mobile, China Mobile, Ericsson, Facebook and Intel Corporation. As Qatar's communications regulator, CRA's mandate includes fostering a thriving communications sector, of which the mobile industry forms a large part. CRA works with both mobile operators and consumers to raise industry standards and improve mobile services, with the ultimate goal of contributing towards Qatar's development into a smart digitally connected nation. With MWC attracting the most senior professionals and thought leaders in the mobile industry, CRA is actively participating at the event to keep abreast of the latest mobile trends and developments to enable CRA to deliver on its mandate and ensure Qatar has competitive, effective and innovative mobile services for the benefit of all consumers in Qatar. Among other highlights of interest to CRA is Ooredoo's demonstration of 5G technology at the event. The Communications Regulatory Authority (CRA) is the communications regulator in the state of Qatar established by virtue of Emiri Decree (42) in 2014. CRA regulates the communications & information technology sector, postal services, and access to digital media. CRA uses its regulatory powers mandated by the Emiri decree to protect consumer rights, ensure competition, manage the resolution of disputes, and manage the electromagnetic spectrum. In all its activities, the CRA seeks to ensure the provision of advanced, innovative and reliable ICT and postal services across the state of Qatar. (February 21, 2016) cra.gov.qa

The Communications Regulatory Authority (CRA) has facilitated the radiocommunication requirements of the international cycling event "Tour of Qatar 2016" with temporary licensing and approvals for the import and use of radio equipment. As Qatar's communications regulator, CRA manages licenses and services relating to the import and operation of telecommunications equipment, including radio devices, wireless cameras and broadcast equipment. Clear, high quality and interference-free radiocommunication is essential to the success of elite cycling competitions such as the Tour of Qatar, and CRA played a major supporting role in line with its national mandate which includes fostering a thriving communications sector for Qatar and managing scarce resources such as the radio spectrum. The Tour of Qatar 2016 is a high profile international competition and significant preparation and planning was required to service an event of this scale. CRA played its part to contribute to the success of the event and met the challenges set in a professional manner with all necessary approvals granted quickly and efficiently. CRA received a large number of applications requesting approvals and licensing of radio equipment related to the Tour of Qatar. In total, CRA approved 439 different types of radio equipment, and 36 different frequency channels for the organizer, and 26 different types of radio equipment and 17 spot frequency channels for broadcasters. Approvals were granted within a short time period to meet the needs of the Tour and CRA also extended its full support for the timely release of imported equipment shipped to Qatar. For the benefit of organizers of big events that require use of radio communication devices and temporary spectrum frequencies. (February 10, 2016) cra.gov.qa

Saudi Arabia

Governor: Dr. Abdulaziz Salem Al Rwais
Deputy Chairman of the BoD
[Communication & Information Technology Commission (CITC)]

Saudi Arabian telecoms regulator the Communications and Information Technology Commission (CITC) has adopted the draft Interconnection Guidelines and the Guidelines for Access to Physical Facilities, which were first published on its website in November 2014. The watchdog highlighted that Decision 333/1437 was taken in order to reflect 'the technological and market developments in ICT since the current Interconnection Guidelines were issued in 2003'. The updated Guidelines for Access to Physical Facilities establish new rules governing access to physical facilities, including collocation and sharing of physical facilities; provide a framework for access to physical facilities and networks in a technologically neutral manner; foster investment in and deployment of next generation networks (NGN); and establish a process for dealing with access disputes, among other things. The Interconnection Guidelines, meanwhile, seek to ensure that all service providers are treated fairly and in a non-discriminatory manner, with respect to the provision of interconnection services, to ensure good practice with respect to interconnection services between service providers and to promote the provision of high quality services for interconnection through technical and economic efficiency. (February 23, 2016) telegeography.com

Saudi Arabia's three telecom operators are in talks to create a company to own and manage their mobile transmitter towers in a move that could cut costs and lower tariffs in the kingdom, a Saudi financial news website reported on Wednesday. Etihad Etisalat (Mobily) in November said it was considering selling its towers, most likely to a tower company which would lease these back to the seller. But Maaal, citing unidentified sources, said that Mobily along with Zain Saudi and former monopoly Saudi Telecom Co (STC) are in talks to establish a company that would share ownership of the trio's towers. The newspaper said it was unclear whether the firms, which all did not immediately respond to requests for comment, would jointly own the new entity or if this would be sold to another party. Tower companies typically buy towers from one operator and then attract others as tenants. This has proved particularly beneficial in Africa, where operators face high costs in powering generator-run towers, sites are tough to access due to poor transport links and phone use and coverage are relatively low and so there is significant market growth potential. Saudi Arabia's mobile penetration is 180 percent, the sixth-highest globally, so the benefits are likely to be less pronounced, although it should allow operators to reduce capital and operating costs. Maaal said the deal would provide savings of up to 70 percent and enable the operators to cut tariffs. Such reductions would help them fight back against low-cost, or often free, Internet-based calling applications, the newspaper claimed. Valuing the thousands of assets involved makes tower deals complicated. Mobily and STC previously abandoned a similar tower asset merger. (February 10, 2016) zawya.com

Users of WhatsApp were a joyous lot as the call facility finally became available on the popular messaging service in the Kingdom. The facility, which is for free now, through WhatsApp was earlier banned in Saudi Arabia and only messaging service was available. "The ban has been lifted in the Kingdom," said local media on Saturday. Riyadh-based software engineer Faisal Haleem termed it a good initiative which will "help open up the telecom market and bring the rates down for both local and international calls." Sultan Abdullah, a student at King Abdul Aziz University, said: "I heard about the free call facility through my friend on WhatsApp. I tried and it was indeed working." In the past, he said, every time you tried to call someone via WhatsApp, a standard voice message would tell you that this service is not available in your country. Mirza Abdul Muqeet, a Pakistani expat in Jeddah, welcomed the news. "In this day and age when such free apps are available, it was painful to spend huge amounts on telephone bills," he said. "I would run bills in hundreds of riyals calling my relatives in Karachi." He claimed that telephone call rates are among the highest in Saudi Arabia and thanked the Saudi authorities for the move. A few months ago, WhatsApp had issued a statement on its website that read: "Unfortunately, the WhatsApp Calls service is not available in all countries due to local laws and regulations." The statement continued: "If you are in any of these countries, you will not be able to make or receive these calls, and if you are in a country that offers the WhatsApp Calls service, you will not be able to call users located in countries that do not offer the service." Meanwhile, the CITC, telecom regulatory authority in the Kingdom, did not confirm whether the call facility is temporary or permanent. (February 7, 2016) zawya.com

Sri Lanka

Director General: Mr. P.B. Abeykoon
[Telecommunication Regulatory Commission (TRC)]

With new tests in Sri Lanka, Google's Project Loon — the company's "moonshot" effort to use a network of balloons floating in the stratosphere to deliver high-speed Internet — is moving forward. The first of three balloons used in tests for the Internet program in Sri Lanka entered the country's airspace on Monday after being launched from South America, says Muhunthan Canagey, head of Sri Lanka's Information and Communication Technology Agency, to Agence France-Presse. "Two other balloons will reach [the] country's coastline by the end of the month. One is currently off the East Coast of South Africa and is expected next week while the other one is expected in 12 days," Mr. Canagey added, noting that the first balloon is currently over the southern part of the country. Additional Google workers are expected to arrive in the country later this week to test flight controls for the balloons, the efficiency of the radio spectrum that carries the wireless Internet, and other technical issues, Canagey told AFP. The company is hoping to partner with local telecom companies to use the balloons, which move with the wind after being positioned by software algorithms, to create a large-scale communications network that could be used to provide Internet access in parts of the world where traditional fiber optic networks and wireless coverage can be spotty. Google's X unit, now under the larger holding company Alphabet, has been testing the technology since 2013 in New Zealand, California's Central Valley, and Northeast Brazil. Last year, the balloons, which sit 20 kilometers above the Earth, flew around the world 19 times over 187 days, the company says. Sri Lanka's government said earlier this month that it would take a 25 percent stake in the project in return for providing the wireless spectrum needed to broadcast the Internet signals. The tech giant also has a similar partnership in Indonesia. An additional 10 percent of the project would be offered to existing telecom companies, in a move the partners say promises to offer cheaper rates for data access while expanding coverage throughout Sri Lanka, AFP reports. The partnership holds particular promise in Sri Lanka, which was the first country in South Asia to introduce cellphones in 1989 and the first nation to introduce a 3G network in 2004, unveiling a 4G standard two years ago. But despite having some of the world's cheapest data costs, according to the World Bank, less than a quarter of Sri Lanka's more than 20 million people have Internet access. The country has about 3.3 million mobile data connections and 630,000 wired Internet subscribers. In recent months, Facebook's Free Basics, a competing proposal to provide affordable Internet access to users around the world, has faced scrutiny in India and Egypt because of questions about the social network's intent in launching the service. Free Basics, which Facebook maintained was intended as a humanitarian effort, earned comparisons to the British East India Company and raised questions about whether the service violates net neutrality, the principle that prohibits a service provider from funneling users to a particular group of websites or blocking access to others. The conflict over the service, which India's telecom regulator essentially banned earlier this month, deepened when a Facebook board member and prominent tech investor commented on Twitter that "anti-colonialism has been economically catastrophic for the Indian people for decades," adding, "why stop now?" The series of tweets by venture capitalist Marc Andreessen prompted a storm of criticism and a rebuke by Facebook head Mark Zuckerberg, but the debate also served to raise awareness of a key question about how western companies should approach Internet efforts in other countries. With Project Loon, which Google chief executive Sundar Pinchai has said he hopes to bring to India soon, Google appears to be taking a different approach, though the effort will also involve partnerships with local telecom companies. "Think of the enormity of bringing billions of people to the Internet and doing it in a way that is affordable and giving them abundant access and the scope of that is too much for any one entity to tackle on its own," Marilyn Croak, a Google vice president told the Times of India in December. "So I always tell my team, don't think of us as having competitors, think of us as only having partners in this arena. We have to work together to solve this problem." In developing its balloon-powered Internet service, the search engine giant also faced technical challenges; including finding a balloon design that was both inexpensive and durable enough to navigate through the stratosphere. The company eventually settled on a design with a lifespan of about 180 days that can be recycled, the Wall Street Journal reports. The data connection made possible by the balloons has also increased to 15 megabits per second, fast enough to deliver streaming video, Astro Teller, head of Alphabet's X unit, which oversees Project Loon, told attendees at the annual TED conference in Vancouver on Monday, tech site Recode reports. In Sri Lanka, officials eventually hope to launch 13 balloons across the country in addition to the one balloon currently in the south. "This is a big victory for Sri Lanka and a golden opportunity to use connectivity to boost growth," Harin Fernando, the country's telecommunication and digital infrastructure minister told the Journal. (February 16, 2016) csmonitor.com

The Sri Lankan government is planning to acquire a 25% stake in a joint venture with US search engine giant Google, in a bid to deliver high speed internet services via a network of high-altitude balloons to the whole of the country. Telecommunications Minister Harin Fernando said that 10% of the joint venture's shares will be offered to existing telecoms service providers in the country. The official added that the trial of 'Project Loon' is scheduled to take place later this month in Ratmalana (Colombo District) and could last up to a year. 'Our objective is to extend coverage so that the entire island will be covered. With competition, tariffs will also come down', Mr. Fernando said. In July 2015 the state signed a memorandum of understanding (MoU) with Google to deploy the latter's Project Loon balloons in order to increase 3G coverage across the country. Google initially launched its balloon-powered internet scheme in New Zealand in 2013, stating: 'Each balloon can provide connectivity to a ground area about 40km in diameter at speeds comparable to 3G. For balloon-to-balloon and balloon-to-ground communications, the balloons use antennas equipped with specialized radio frequency technology'. Project Loon utilizes unlicensed frequencies in the 2.4GHz and 5.8GHz bands. (February 2, 2016) The Indian Express

Sri Lanka's Telecommunication and Digital Infrastructure Minister Harin Fernando has revealed that the takeover of cellco Hutchison Telecommunications Lanka (Hutch) by Mobitel, the cellular division of state-controlled Sri Lanka Telecommunications (SLT), will be concluded 'shortly'. The deal – which is estimated to value the unit at between USD115 million and US$135 million – was agreed upon in February 2014, though disagreements over the purchase price were reportedly the reason behind the delay in regulatory clearance. Further, Mr. Fernando revealed that the Telecommunications Regulatory Commission (TRC) has rejected an offer for Hutch from UK-based MVNO Lycamobile. The official said: 'Too many operators are bad for the industry, which is why TRC rejected the Lycamobile proposal.'
(February 2, 2016) Ceylon Today

Sudan

Director General: Dr. Izz Al Din Kamil Amin
[The National Telecommunication Corporation (NTC

Zain Sudan, the country's largest mobile network operator by subscribers, has been awarded an LTE license by the local regulator the National Telecommunication Corporation (NTC), paving the way for the introduction of high speed 4G data services in the country. In an announcement on social media, Kuwaiti-owned Zain Sudan said the licensing agreement was signed on February 18 by the firm's managing director and CEO Elfatih Erwa and the director of the NTC, Yahya Abdullah, in the presence of Minister of Science and Communications Tahani Abdullah Atiya. In early 2015 the NTC revealed that it intended to issue licenses to the country's existing mobile network operators for the provision of 4G services. The regulator said it would enter into negotiations with cellcos with a view to concluding uniform conditions for all licensees, such as quality of services and coverage commitments. In the past, Zain has indicated that it would use its spectrum in the 1800MHz band to provide 4G services, subject to approval from the NTC. The cellco, which had a subscriber base of 11.869 million at the end of 2015, has claimed that as soon as it does receive permission, it could begin offering LTE 'within four months', as much of its mobile broadband network is already able to support the technology. (February 22, 2016) telegeography.com

Tunisia

President: Mr. Hassoumi Zitoune
[National Telecommunication Commission (INTT)]

Ooredoo Tunisia is 'technically ready' to provide LTE services to 20% of the Tunisian population, with coverage in all 24 governorates by the end of the year, Chief Technology Officer Hatem Mestiri said in an interview with Tunisie Haut Debit. 4G licenses are due to be allocated by mid-March and a commercial launch should take place in April, or June at the latest, the official added. Putting additional pressure on these deadlines, however, is a requirement for the licensees to offer national roaming on their 4G networks, enabling customers throughout the country to access 4G from their provider. To date, the pricing for this facility has yet to be determined, and each roaming offer must be studied and approved by sector watchdog the National Telecommunications Authority (Instance Nationale des Telecommunications, INT). Responding to criticism that the 3G networks had 'already failed,' Mr. Mestiri explained that the 4G networks would solve many of the issues affecting the country's 3G platforms, noting that problems users were experiencing in connecting to 3G networks in the evening was due to a phenomenon known as 'cell breathing,' whereby the coverage area of an antenna is reduced during times of high usage. Due to the greater capacity of LTE technology, and the propagation characteristics of the 800MHz band, customers should no longer lose coverage during peak hours. In terms of other developments, the official noted that the first test calls using voice-over-LTE (VoLTE) technology were expected to take place in H2 2016. Mr. Mestiri added that the cellco is also planning to continue developing its 3G network, and has scheduled work to boost coverage from 94% to around 99.6% by end-June 2016. (February 22, 2016) telegeography.com

Orange Tunisia has been issued a fine of TND183,715 (US$90,657), equivalent to 0.05% of the cellco's total turnover for 2014, by sector watchdog the National Telecommunications Authority (Instance Nationale des Telecommunications, INT) for breaking rules regarding the advertising of tariffs. The INT also ordered the cellco to cease offering its '3ajab' plan, and to withdraw all marketing of the product, saying that Orange was continuing to carry out illegal practices by failing to ensure that prices were displayed to the public in a 'transparent, clear and readable' manner. The watchdog had warned the operator over its conduct in April 2015, issuing Orange with a fine of TND29,979, or 0.01% of its turnover, for breaching the advertising rules. Orange's 3ajab plan is a pre-paid tariff offering customers additional credit when they top-up, giving users five times the value of top-ups of less than TND5, and ten times the amount for TND5 or more.
(February 19, 2016) telegeography.com

Turkey

Acting Chairman: Dr. Omer Fatih Sayan
[Information & Communication Technologies Authority (BTK)]

Turk Telekom (TT) plans to invest TRY10 billion (US$3.4 million) in a 'digital revolution' over the next three years, with TRY3.2 billion of this mooted to be spent in 2016, according to the company's CEO Mr. Rami Aslan speaking at a press conference. Commenting on TT's TRY14.5 billion sale revenue for 2015 – up 7% from the previous year – Aslan noted: 'We have exceeded our target numbers for 2015 and, therefore, will use this surplus to further the digitalization of Turkey in ways which will cater to customer needs as well as Turkey's local interests.' TT estimates annual revenue for 2016 will see an increase of between 7% and 9%, with the operator's long-term targets including connecting 'every household to the fiber-optic network and [turning] Turkey into a digital hub in the region.' TT announced the merging of its respective mobile and ISP brands Avea and TTNet under the unified Turk Telekom brand name, logo and website. The new logo is already in use,

as is the single converged website grouping all fixed line, broadband, mobile and pay-TV service divisions. Avea and TTNet remain distinct legal entities as wholly owned subsidiaries of Turk Telekom. (February 15, 2016) The Daily Sabah

Vodafone's Turkish unit has announced a record speed of 942Mbps in tests utilizing LTE-suitable spectrum won in the August 2015 auction. Claiming a first for the country, the operator has applied 256-QAM (quadrature amplitude modulation) technology to frequencies aggregated across four bands – 800MHz, 1800MHz, 2100MHz and 2600MHz. Vodafone Turkey expects to launch commercial '4.5G' technology on April 1, 2016. Turkey's three incumbent mobile network operators (MNOs), British-owned Vodafone plus Turkish-owned Turkcell and Avea (Turk Telekom), each won 4G spectrum in the 26 August 2015 tender held by the Information and Communication Technologies Authority (BTK). Vodafone paid a total of US$869 million for spectrum in the 800MHz (2×10MHz), 900MHz (2×1.4MHz), 1800MHz (2×10MHz) and 2600MHz (2×15MHz) bands, valid for 14 years. (February 4, 2016) telegeography.com

United Arab Emirates

Director General: Mr. Hamad Obaid Al Mansoori
[Telecommunication Regulatory Authority (TRA)]

du does not expect to increase its share of dividend payments to the United Arab Emirates government. The federal government relies on over 60 percent of its budget from oil and gas sales and amid falling commodity prices economists have called on structural changes to the way the country raises revenue. Royalties paid to the government by the country's telecom operators du and Etisalat are to be reviewed this year. "We wait on instruction from the government, however, we don't expect this to change," Bin Byat told reporters at the World Government Summit in Dubai when asked whether he anticipates paying a larger dividend. du pays a percentage of its profit and revenue as a dividend to the UAE federal government, which owns 39.5 percent of the telecom operator through its sovereign wealth fund the Emirates Investment Authority, Bin Byat said. Last month, etisalat Group Chief Executive Ahmad Julfar also said that he didn't expect there would be any changes in royalties paid to the federal government.
(February 9, 2016) gulfnews.com

Represented by the General Authority for Regulating the Telecommunications Sector (TRA), the UAE has chaired the second meeting of the International Telecommunications Union standardization sector. The meeting of the (ITU-T) Study Group 20 "Internet of Things and Smart Cities" was hosted by the Infocomm Development Authority of Singapore. Engineer Nasser Al Marzooqi, Chairman of the ITU-T Study Group 20, UAE representative to the ITU-Geneva, and ITU Affairs Manager represented TRA in the meeting. The Kingdom of Saudi Arabia, the Russian Republic, Japan, Spain, Southern Korea, Argentina, Italy, and China held the position of the study group Vice- Chairmen which illustrates the great importance of the new Study Group. In this context, Hamad Obaid Al Mansoori, UAE TRA Director General, "Internet of Things (IOT) is shaping the future of the world, as it is going to facilitate our

journey towards smart cities and governments. This concept involves comprehensive societal, economic, and legal aspects. In light of this, UAE is eyeing IOT with great attention, particularly in light of the massive developments that the country is witnessing in terms of sustainable and smart cities. We are honored by chairing this international study group, as it reflects the UAE's esteemed position in the international ICT industry." "TRA is overseeing one of the most vital sectors to the smart transformation which is the telecommunication sector as it described as the nervous system of the Smart Cities. We are striving to ensure that this system is active and responsive to the requirements of giant projects like Dubai Smart City and Masdar." On the sidelines of the meeting, a forum on the Internet of Things and Smart Cities, entitled "a new era of smarter living" was held. Jacob Ibrahim, Singapore's Minister of Communications and Information delivered an opening speech where he highlighted Singapore's vision for Smart Cities. The opening speech was followed by a speech by Mr. Chaesub Lee, Director, Telecommunication Standardization Bureau, ITU. Then, the Chairman of ITU Study Group 20 presented the meetings most significant highlights. The Study Group 20 is responsible for developing international standards that enable developing Internet of Things (IOT) technologies including smart cities. The meeting brought together more than 150 participants from ITU Member States, industry leaders, international and regional organizations, and invited experts. From UAE, TRA and Etisalat participated. Moreover, Etisalat chaired a working group. (February 7, 2016) zawya.com

REGULATORY ACTIVITIES BEYOND THE SAMENA REGION

REGULATORY UPDATES

Australia

The Australian Communications and Media Authority has directed mobile service provider Lycamobile to comply with the Telecommunications Consumer Protections Code (the TCP Code) following a complaints handling investigation. The investigation found Lycamobile had failed to keep any records of due response dates for its complaints, and in some limited circumstances had not advised customers of delays in dealing with their complaints or kept records of proposed resolutions. "The ACMA has seen significant improvements in complaints-handling practices in the telecommunications industry since the Reconnecting The Customer (RTC) inquiry in 2011," said ACMA Chairman, Chris Chapman. "However, we will not fail to act where a provider's standards do not meet the requirements of the industry code. Good record keeping practices are essential to for providers to track the progress of complaints received and resolutions proposed -- both essential for maintaining a good customer experience and relationship." Lycamobile has undertaken to review its complaints-handling record-keeping to ensure it meets the requirements of the TCP Code. (February 16, 2016) cellular-news.com

Australian mobile networks have collectively paid AU$543.5 million in a radio spectrum auction run by the telecoms regulator, the ACMA. The auction, which commenced on 30 November last year, ran over 179 rounds, enabling bidders to identify and place bids on spectrum within the band in those geographical areas they valued most.

• Optus Mobile - $196 million

• Telstra - $191 million

• TPG Internet - $88 million

• Vodafone - $68 million

"The 1800 MHz band spectrum auction process ran very efficiently and the simultaneous multi-round ascending (SMRA) auction format proved highly effective in testing the market value of the spectrum and allocating it to those parties that valued it most," said ACMA Chairman, Chris Chapman. Any of the spectrum lots that were left unallocated may be later offered for allocation by a procedure and at a time to be determined by the ACMA. No consideration has presently been given to any future allocation of this unallocated spectrum. (February 9, 2016) cellular-news.com

Australia announced that its auction of 1800-MHz spectrum has drawn to a close, more than two months after it began, raising a total of A$543.5 million.

Four bidders emerged victorious from the sale, with Optus Mobile spending the most, closely followed by incumbent Telstra; they were the only companies to secure spectrum in all regions of the country. Optus' total bill came in at A$196 million for 55 5-MHz blocks of paired spectrum, the Australian Communications and Media Authority (ACMA) announced. Telstra also walked away with 55 5-MHz blocks and two 2.5-MHz blocks at a cost of A$191 million, the ACMA said. The other two spectrum winners were TPG Internet, which secured 18 5-MHz blocks for A$88 million, and Vodafone, which committed A$68 million for 11 5-MHz blocks. Six blocks remained unsold. "There was very strong competition among all bidders, with the auction running over 29 working days between November 2015 and February 2016," said ACMA chairman Chris Chapman. "Strong bidding resulted in the majority of lots on offer being sold for an amount that exceeded our expectations." Chapman noted that the 1800-MHz band is already in use in Australia's major cities for the provision of 4G services. "With previously unallocated 1800-MHz spectrum in regional areas now in the hands of mobile broadband service providers, the auction should enable improvements to the availability and performance of 4G telecommunications services right across regional Australia," he said. In a separate statement, Telstra said the newly acquired spectrum would help it deliver greater capacity and faster speeds to meet growing demand, particularly in regional areas. "As a result of the auction, we'll be at least doubling the amount of spectrum in the 1800-MHz band that we can use to provide 4G services in these areas," said Telstra CEO Andy Penn. "In fact, in some regions we will more than triple the amount available." The telco noted that its new spectrum licenses will come into force in May next year and will have 11-year duration.

(February 5, 2016) totaltele.com

Four Australian operators have spent AUD543.5 million ($385 million) in an auction for 1.8GHz spectrum in 12 regions, with the two largest players paying nearly AUD400 million. Singtel-based Opus spent AUD196 million while market leader Telstra invested AUD191 million in airwaves in all 12 regions. TPG Telecom paid AUD88 million for its spectrum, and Vodafone Hutchison spent AUD68 million. The Australian Communications and Media Authority (ACMA) started the auction in late November and the bidding went through 179 rounds to cover 147 separate allocations of small blocks of spectrum. After pressure from Optus and Vodafone, ACMA limited the block size to 2x25MHz out of the available 2x60MHz per region. The licenses have 11-year terms. Telstra now has 2x25MHz of contiguous 1.8GHz spectrum in nine regions, 2x20MHz in two regions and 2x10MHz in Canberra, while Optus has 2x25MHz in six areas and 2x20MHz in six other areas. Vodafone has 2x15MHz of contiguous 1.8GHz airwaves in Canberra, 2x10MHz in three areas and 2x5MHz in South Queensland. TPG holds 2x10MHz in eight regions and 2x5MHz in Western New South Wales (NSW). The regions covered by the spectrum licenses are North Queensland, Central Queensland, South Queensland, Northern NSW, Western NSW, Southern NSW, Regional Victoria, Regional SA, Regional WA, Darwin, Canberra and Tasmania. The CEO of market leader Telstra, Andy Penn, said as a result of the auction, "we'll be at least doubling the amount of spectrum in the 1.8GHz band that we can use to provide 4G services in these areas. In fact, in some regions we will more than triple the amount available". (February 4, 2016) mobileworldlive.com

Czech Republic

The Czech Telecommunication Office (CTU) announced its intention to auction the remaining frequencies in the 1800MHz and 2600MHz bands in the express hope that the move will 'contribute to the efficient use of the entire range of the pertinent part of these spectrum bands, to create conditions for the further development of mobile broadband, and thus support competition'. The CTU has published the details of the tender documentation on its website, noting that the conditions of the tender lay down specific requirements for population coverage, the requirement for winners to provide minimum data transmission speeds of 5Mbps over the seven-year term of the award, and commitments to supply national roaming and wholesale offers – akin to the terms laid out under previous auctions. The initial reserve price for the frequencies is CZK734 million (US$30.33 million) per allocated block, with bidding applications to be received on or before the CTU's deadline of March 22, 2016. The auction phase will follow due diligence on the applications received, and successful bidders will be invited to join the auction which the CTU expects to complete in time to allow the assignment of specific frequency bands to the winners in the second quarter of this year.

(February 10, 2016) telegeography.com

Costa Rica

The government has instructed the Superintendency of Telecommunications (SUTEL) to begin the process of allocating 70MHz of unused spectrum in the 1800MHz and 1900MHz/2100MHz bands, left over from the 2010 auction. Deputy Minister of Telecommunications Emilio Arias said that the spectrum would be distributed in a transparent manner, via a competitive auction, potentially paving the way for a fourth cellco to enter the sector. The specifics of the tender process have yet to be decided, however, and SUTEL has appointed a team of experts to hammer out a framework for the sale. One of the main questions to be resolved by the regulator will be the involvement in the tender of state-backed operator Grupo Instituto Costarricense de Electricidad (Grupo ICE), which offers telecoms services under the Kolbi brand. Mr. Arias explained that, whilst the auction must be kept free and open to any company that meets the minimum conditions, Costa Rica's anti-trust authority has previously ruled that the procedure for allocating spectrum must take into account the issue of concentration, referring to the disparity in spectrum holdings between Kolbi, and its two competitors Claro and Movistar: Kolbi owns rights to 550MHz of spectrum, whilst its rivals each hold just 130MHz.

(February 11, 2016) El Financiero

European Union

Europe wants to work out a common strategy to provide innovative services for mobile Internet access. Thus, the EU Commission has suggested reserving the 700 MHz band to this purpose from 2020, in all 28 member states. In 2020, the Commission estimates, demand for mobile broadband spectrum will be eight times as much as it is today, especially owing to a rise in mobile video consumption on smartphone and tablet screens. The European challenge is creating a Digital Single Market. Frequencies, however, do not respect national borders: hence the need to coordinate neighboring states so that

certain frequencies are allocated to broadband services while different ranges are reserved for national television broadcasting in the respective adjacent areas, so as to avoid interference. "Twenty-eight distinct approaches to the regulation of frequencies make no economic sense," according to Andrus Ansip, Vice President in charge of the DSM. The band in question is UHF, from 470 to 790 MHz, which is used for television broadcasting in Europe. The Commission suggests we reserve the band from 694 to 790 MHz to mobile Internet access by 2020. Why not choose other frequency ranges that are not used by television? Because these are the only frequencies that can provide high-quality service both in major metropolitan areas, notably inside homes, and in rural areas with isolated country houses, thus reducing the present digital divide. Frequencies from 470 to 694 MHz shall remain, as a matter of priority, allocated to television services at least until 2025. The 700 band, according to Gunther Oettinger, commissioner for Digital Economy and Society, will give citizens mobile Internet access wherever they are, and will be "the ideal range to connect moving cars, tele-medicine and the Internet of Things," with the new 5G network. France and Germany have already called for tenders from telecommunication operators for the 700 band, preceding the EU Commission's decision. Denmark, Finland, Sweden and Great Britain have fine-tuned their plans to allocate it over the next few years (Great Britain has already set aside compensation funds for television broadcasters that will be obliged to give it up). The real hurdle is Italy. According to the proposal for a Council decision, the 700 band will have to be awarded by means of a tendering procedure in all European countries by June 30th, 2020. If they want to respect this deadline, member states will need to adopt a national plan to allocate these frequencies and make the plan public by June 30th, 2017. They will also need to close coordinating agreements with neighboring states by the end of 2017. At the moment, Italy has no agreement in place with any of its neighboring states, as Italian television channels normally also broadcast on frequency ranges to which these states should, by international right, be entitled. With the transition to terrestrial digital television, said frequencies have mostly been allocated to local channels; so much so the Italian government has had to give up 76 frequencies used by 144 local television channels, for the most part in regions of the Adriatic basin, and decided to assign unused national frequencies (which, however, are mostly in the 700 band) to select local content providers that will need to be cherry-picked in a future 'beauty contest.' Italy, in other words, has too many television networks, both national and local: the flip side to a high concentration of audiences, resources and broadcasting rights. A fragmented yet concentrated system that has a hard time keeping in step with EU requirements and timing. That's why it is having trouble organizing a national plan for all its 700 MHz band television networks according to the schedule provided by the EU Commission – even though a tender to award the 700 band for mobile Internet access will be a source of considerable revenue to the Italian government as to other European governments (the French tender brought in €2.2 billion). The EU Commission's prudential estimate for the 28 member states sets the total income at €11 billion. (February 18, 2016) italy24.ilsole24ore.com

The European Commission has presented a proposal to coordinate the use of the 700MHz band for mobile services. Radio frequencies know no borders: spectrum needs to be better coordinated at EU level to avoid interferences and to allow innovative services, such as

connected cars or remote health care, to work across the continent. The EU also has to cope with the growing demand for wireless broadband. By 2020 there will be nearly eight times as much mobile internet traffic as today. As part of its strategy to create a Digital Single Market, it proposes a balanced long-term approach for the use of the ultra-high frequency (UHF) band (470-790 MHz). Currently, this band is mainly used for TV broadcasting. According to the proposal, more spectrum will be made available for mobile services in the 700 MHz band (694-790 MHz) by 2020. This band is ideal for providing high-quality internet to users, wherever they are, be it a large city, a small distant village or on a highway. Frequencies in the sub-700 MHz area (470-694 MHz) will remain available, as a priority, for audiovisual services. This approach will make sure that Europeans can have access to creative content on tablets and smartphones - an increasing trend - but also through classic TV services. The EU said that the proposal is also in line with the most recent international agreements on the use of the UHF band including the 700 MHz band. The proposal comprises two major elements: In the 700 MHz band: a common schedule for making it effectively available for wireless broadband use under harmonized technical conditions, and related coordination measures in support of this transition; in the sub-700 MHz band: long-term priority for the distribution of audiovisual media services to the general public, along with a flexible approach for spectrum use to cater for different levels of digital terrestrial television (DTT) uptake in Member States. The Commission proposes that the 700 MHz band should be assigned to wireless broadband by 30 June 2020 at the latest in all EU countries. This will be in line with the deployment of 5G, foreseen as from 2020. To meet this deadline, Member States will need to adopt and make public their national plans for network coverage and for releasing this band by 30 June 2017. They will need also to conclude cross-border coordination agreements by the end of 2017. Such plans will smooth the transition and ensure good network coverage that will help to bridge the digital divide and create the necessary coverage conditions for connected vehicles or remote health care. Two Member States (France, Germany) have already authorized the use of the 700 MHz band for mobile services. Further Member States (Denmark, Finland, Sweden, UK) have outlined plans to repurpose the 700 MHz band in the next few years. (February 10, 2016) cellular-news.com

The European Commission has laid out its proposals to allow operators to launch mobile broadband services on the 700MHz band by 2020. The band is already used by operators across Asia and Latin America. Brussels has been exploring the possibility of operators using the band for the past few years and finding an alternative home for the broadcasters which have formerly been using it. The EC sees the proposals as a key means of enabling its Digital Single Market strategy. Digital Single Market Chief Andrus Ansip said the current approach of 28 different ways of handling radio frequencies across the continent does not make economic sense. Brussels has given the deadline of 30 June 2020 for the 700MHz band to be assigned to operators. EU members must lay out their plans for network coverage and freeing up the band by 30 June 2017. A statement said: "Such plans will smooth the transition and ensure good network coverage that will help to bridge the digital divide and create the necessary coverage conditions for connected vehicles or remote health care." Under the terms of the proposal, audio-visual services will be prioritized to the sub-700MHz band. However, it suggested "a

flexible approach for spectrum" should be taken, with companies including Google and Microsoft exploring the possibilities of dynamic spectrum use. Last November, French regulator ARCEP held an auction of 700MHz spectrum for the country's operators. Germany also sold off chunks of 700MHz to telcos last summer. Denmark, Finland, Sweden and the UK are among the other Member States aiming to free up 700MHz during the coming years. Günther Oettinger, Commissioner for the Digital Economy and Society, said: "We cannot have high quality mobile internet for everything and for everyone everywhere unless we have modern infrastructure and modern rules. With this proposal we show that we can have both: a vibrant audiovisual sector as well as the spectrum we will need for 5G. "The 700 MHz band will be ideal for new promising fields like connected driving and the Internet of Things. I want Europe to lead in 5G. That is why all Member States must act by 2020."

(February 7, 2016) mobileeurope.co.uk

The European Commission (EC) has presented a proposal to coordinate the use of the 700MHz band for mobile services. It will improve internet access for European citizens and help develop cross-border applications. As part of its strategy to create a 'Digital Single Market', the EC has proposed a balanced long-term approach for the use of the ultra-high frequency (UHF) band (470MHz-790MHz), which is chiefly used for TV broadcasting. According to the proposal, more spectrum will be made available for mobile services in the 700MHz band (694MHz-790MHz) by 2020. Frequencies in the sub-700MHz range (470MHz-694MHz) will remain available, as a priority, for audiovisual services. Andrus Ansip, vice president for the Digital Single Market, commented: '28 different approaches to manage radio frequencies in the Commission do not make economic sense in the Digital Single Market. Today we come with our first proposal on how to better coordinate spectrum in the EU. We propose a joint approach to use the 700MHz band for mobile services. This band is the sweet spot for both wide coverage and high speeds. It will give top-quality internet access to all Europeans, even in rural areas, and pave the way for 5G, the next generation of communication network'. (February 3, 2016) telegeography.com

The EC presented a proposal to coordinate the use of 700MHz spectrum for mobile services, in a move it said would "improve internet access for all Europeans and help develop cross-border applications". The body said that spectrum needs to be better coordinated at the European level "to avoid interferences and to allow innovative services, such as connected cars or remote health care, to work across the continent". Andrus Ansip, VP for the Digital Single Market, said: "28 different approaches to manage radio frequencies in the EU do not make economic sense in the Digital Single Market." The 700MHz frequencies, which are already used for mobile broadband in some APAC and America markets, were harmonized for mobile internet services globally at the ITU's World Radiocommunications Conference 2015. At the same time, frequencies below the 700MHz band were allocated to television services, which the EC now said will "make sure that Europeans can have access to creative content on tablets and smartphones – an increasing trend – but also through classic TV services". The proposal contains "two major elements": a common schedule for making 700MHz available for wireless broadband use under harmonized technical conditions, and related coordination measures; and a "long-term priority for the distribution of audiovisual

media services" in the sub-700MHz bands, with a "flexible approach for spectrum use to cater for different levels of digital terrestrial television uptake in member states". The Commission is proposing that the 700MHz band should be assigned to wireless broadband by 30 June 2020 at the latest in all EU countries. To meet this deadline, member states will need to adopt and make public their national plans for network coverage and for releasing this band by 30 June 2017. Two states (France and Germany) have already authorized the use of the 700MHz band for mobile services, while Denmark, Finland, Sweden and the UK have outlined plans to repurpose the band in the next few years. The proposal will have to be examined by the European Parliament and Member States, under a co-decision procedure. After taking their positions, negotiations will begin, which "may take between a few months and one year".

(February 2, 2016) mobileworldlive.com

France
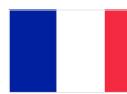
The telecoms regulator ARCEP proposed to the Government that it issue a call for 4G network deployments in Guadeloupe, Guyana, R union Martinique, Mayotte, Saint Martin and Saint Barth lemy. The Government issued these calls for applications January 29, 2016. The purpose of this process is to allocate spectrum in the 800 MHz and 2.6 GHz bands that remains unassigned in these overseas markets, along with still available spectrum in the 900 MHz, 1800 MHz and 2.1 GHz bands. These allocations will give operators the means to deploy 4G and to continue to develop their 3G networks. The deadline for submitting an application with ARCEP has been set for May 10, 2016. ARCEP plans on completing the allocation procedure in 2016. It will issue licenses to the winning operators which will then be able to roll out 4G services before the end of the year. On the specific matter of Réunion and Mayotte, ARCEP decided to provide a framework for commercial 4G rollouts, and to set a launch date of December 1, 2016. Competition has been particularly fragile in these markets since SRR and Outremer Telecom merged in late 2014. A new operator emerged following an injunction that the Competition Authority issued to SFR-Numericable to divest itself of the Outremer Telecom mobile business. To maintain a lasting market structure of at least three operators, ARCEP and the Government decided that the launch date for 4G should be postponed for several months, i.e. until December 1, 2016. (February 11, 2016) cellular-news.com

The telecoms regulator (ARCEP) has invited applications for the award of available 3G/4G spectrum in the French overseas territories ('departement d'outre-mer', DOM) of Guadeloupe, Guyana, Reunion, Martinique, Mayotte, Saint-Martin and Saint-Barthelemy. The watchdog will auction spectrum in the 800MHz and 2600MHz bands (yet unallocated overseas), along with additional frequencies in the 900MHz, 1800MHz and 2100MHz bands. All interested parties are invited to submit their applications by 10 May 2016. The regulator will award up to four licenses 'per zone', each with specific deployment obligations; ARCEP said that the authorizations in Guyana will come with obligations to improve the coverage of the two national highways (NR1 and NR2). In regards to Reunion and Mayotte, ARCEP decided to set the commercial launch of 4G services for 1 December 2016, due to the 'particularly fragile' competition environment since the November 2014 merger of SFR and Outremer Telecom. Back in July 2013 ARCEP unveiled a 'broad public consultation' covering

mobile frequency assignments in the 700MHz, 800MHz, 900MHz, 1800MHz, 2100MHz and 2600MHz spectrum bands, with a view to facilitating the introduction of LTE. The process was successfully concluded in February 2014, and a formal tender was expected to be introduced in 1H14, only for the regulator to miss its self-imposed target. (February 4, 2016) telegeography.com

Fiji

The Minister for Communications, Aiyaz Sayed-Khaiyum, is close to finalizing a new licensing arrangement between domestic mobile operator Digicel Fiji and pay-TV provider Sky Pacific. The permanent secretary for communications and IT, Ewan Perrin, says that the matter needs to be ratified and authorized by the minister, adding that this should happen 'soon'. In September 2015 Digicel Group's Fijian arm completed the acquisition of Sky Pacific, a division of Fiji Television, for FJD5.75 million (US$2.66 million), but said it was still awaiting the final Special License required to complete the takeover. The matter has rumbled on, however, leaving the status of Digicel Fiji's subscription-based TV service 'in limbo'. Following the September deal, Digicel submitted an application for an operating license with the Ministry of Communications, as per the rules set down in the Media Industry Development Decree. Digicel Fiji CEO Darren McLean is quoted as saying that his company has agreed to all license conditions set down by the government and hopes that the completion of its takeover of Sky Pacific will be announced very soon. (February 18, 2016) Daily FijiVillage

Finland

The Finnish Ministry of Transport and Communications announced plans to auction the 700 MHz band for mobile services by the end of this year. The band is expected to be released from broadcasting and available for the mobile sector by 2017, so an auction will be arranged by the Finnish Communications Regulatory Authority by the end of 2016. The ministry said the new frequencies will help boost the coverage of 4G networks. Questions related to the use of the band, such as whether to allocate part of the frequencies to the public authority network, will be decided by this spring, and the government will also work on coordinating use of the band with neighboring Russia. Provisions on the details of the auction will be laid down in a government decree and a Finnish Communications Regulatory Authority regulation. A hearing with operators was already held on 02 February. (February 22, 2016) telecompaper.com

GSMA

The GSMA's Mobile Connect initiative has in excess of 2 billion users, the industry body's new director general announced at the opening session of Mobile World Congress in Barcelona on Monday. 24/7 connectivity is "all good stuff," Mats Granryd told conference attendees, referring to what already looks set to be an over-arching theme of MWC 2016, but consumers and operators need to be mindful of privacy and security concerns in a world of multiple online identities and passwords. With that in mind, two years ago the GSMA launched Mobile Connect, an initiative that gives consumers a single, mobile phone-based identity that allows them to access multiple mobile and digital services securely. Last year the organization challenged itself to sign up

1 billion users, Granryd said, although admittedly we have no written evidence for that target. "We have surpassed that," he said. "We now have more than 2 billion enabled users." Later, Granryd, the former Tele2 chief executive who took over from Anne Bouverot as leader of the GSMA at the start of this year, invited the organization's chairman and former Telenor CEO Jon Fredrik Baksaas to the stage. The GSMA has often struggled to align its goals with others in the industry to generate the necessary scale for its various initiatives, Baksaas admitted. "But on this occasion we have really done it," he said. He added that with the move from 4G to 5G, with its increased numbers of connections and services, the concept of identity will become increasingly important. Rest assured that this will not be the last time we hear 5G mentioned at this Mobile World Congress. (February 22, 2016) totaltele.com

The GSMA, alongside seven mobile operators, has unveiled extensive security guidelines for developing IoT services and products. The global telecoms body said the guidelines have been designed with the entire IoT ecosystem in mind; including IoT service providers, device manufacturers, developers and network operators. According to research undertaken by Telecoms.com Intelligence, concerns over security is the biggest barrier to implementing IoT among telecoms operators – identified by nearly half of those surveyed. Meanwhile, just 10% said they're capable of launching fully secured IoT services. What this illustrates in the context of today's announcement is a clear desire to see more guidance in securing IoT. The GSMA says the guidelines will outline various ways to identify and address potential IoT threats, thus helping service providers build secure services from the outset. The guidelines also apparently explain risk assessment methodologies to ensure IoT services are capable of collecting, storing and exchanging data securely while mitigating possible cybersecurity attacks. "As billions of devices become connected in the Internet of Things, offering innovative and interconnected new services, the possibility of potential vulnerabilities increases," said the GSMA's CTO, Alex Sinclair. "These can be overcome if the end-to-end security of an IoT service is carefully considered by the service provider when designing their service and an appropriate mitigating technology is deployed. A proven and robust approach to security will create trusted, reliable services that scale as the market grows." The GSMA partnered with AT&T, China Telecom, Etisalat, KDDI, NTT DOCOMO, Orange, Telefónica, Telenor and Verizon for operator and service provider input, while Ericsson, Gemalto and u-blox contributed from the vendor community. Telefónica's Chief IoT Officer, Vicente Muñoz Boza, says the industry needs such guidelines so that service providers can feel secure about their IoT services. "These guidelines build on the long experience of secure communications over cellular networks. Security of IOT solutions is of utmost importance and these documents represent an important step in supporting our customers to deliver secure end to end services." (February 9, 2016) telecoms.com

Mobile industry group the GSM Association (GSMA) has criticized the high reserve price recommended by the Telecom Regulatory Authority of India (TRAI) for 700MHz spectrum in the upcoming auction, and called for the government to set prices at 'reasonable levels.' The Indian watchdog set a reserve price of INR114.85 billion (US$1.69 billion) per MHz (paired) of pan-India spectrum in the 700MHz range, with prices per circle ranging from INR440 million (North East) per MHz of paired spectrum

to INR15.95 billion (Delhi). In its statement, the GSMA noted that India has one of the lowest levels of ARPU in the world at around US$2.45, adding that competitive pressure on revenues, high capital expenditure and the 'so far limited revenue contribution from data services' would make it difficult for operators to recover from high spectrum prices. Moreover, the association stressed that the high base prices left cellcos with less capital to invest in the rollout of new networks. 'Spectrum's greatest value does not come from high sale prices, but rather from its use to expand social and economic opportunity for all of India's citizens,' the GSMA's chief regulatory officer, John Giusti said, adding: 'As the digital economy becomes increasingly important to India's future prosperity, we encourage greater focus on the long-term benefits of connecting more people in India to affordable mobile broadband, rather than on short-term financial gain... Setting reserve prices at reasonable levels will be key to achieving the Digital India objectives, allowing operators to focus their resources on building the necessary infrastructure to deliver high-quality mobile services for Indian citizens.' India has had mixed results from spectrum auctions in recent years. The government raised INR1.1 trillion from the sale of airwaves in the 800MHz, 900MHz, 1800MHz and 2100MHz bands in March 2015, although the amount was inflated somewhat by incumbent operators striving to repurchase existing concessions under pressure from acquisitive newcomer Reliance Jio Infocomm (RJIL). Similar conditions also helped drive up prices in the February 2014 auction, which raised INR611.6 billion, with operators scrapping over highly sought-after 900MHz and 1800MHz spectrum. Sales in November 2012 and March 2013 fared far worse, however. With little incentive for the larger incumbents to weigh-in, and investor confidence in the sector at an all-time low following the mass license cancellation in February 2012, the November 2012 tender brought in less than a quarter of the anticipated INR138.5 billion. Similarly, in March 2013 only one bidder took part in the auction for 800MHz frequencies, leaving large quantities of spectrum unsold and unused.

(February 3, 2016) telegeography.com

Hong Kong

The Office of the Communications Authority (OFCA) has launched a public consultation into the future of spectrum in the 900MHz and 1800MHz bands which is currently assigned to the four incumbent operators until 2020/21. The regulator is proposing three approaches to the reassignment of the frequencies: to give the existing licensees the right of first refusal; to revoke the licenses once they expire and hold an auction for all 200MHz of available spectrum; or to reserve one-fifth (40MHz) for existing assignees and to auction the remainder. OFCA says it expects 2G networks to still be active after 2021 so it is keen to see at least some of the territory's existing GSM networks maintained, though under technology neutral guidelines, some of the 900MHz and 1800MHz frequencies have already been transferred to 3G or 4G use. A final decision on the future of the spectrum is expected to be made by November 2017.

(February 8, 2016) telegeography.com

Iceland

The Icelandic parliament has revoked the Act on Third Generation Mobile Telephony (No. 8/2005), with effect from February 1, 2016, though the frequencies in the 2100MHz band that have been allocated by it will remain in use until the end of the authorization term (i.e. March 30, 2022). Telecoms regulator, the Post and Telecom Administration (PTA), disclosed that the act 'no longer served its purpose' as a number of conditions outlined in the legislation 'made it difficult' to allocate the remaining available spectrum in the band. The watchdog is now planning to launch a tender for the vacant frequencies later this year, on a technology-neutral basis. Going forward, the PTA will also auction spectrum for high speed mobile broadband services in the 900MHz (2016), 2600MHz (2016) and 700MHz (2017/18) bands. (February 10, 2016) telegeography.com

India

The Indian government is threatening to seize Vodafone's assets in the country if it doesn't pay a disputed US$2.1 billion tax demand. Both sides have been in dispute over the tax demand ever since Vodafone made its initial investment in the country in 2007. An attempt by the Indian government to retrospectively change the law after it lost a court case scared away foreign investors and the government has been seen as keener now to seek an amicable settlement and close the issue. Now it is reported that the Income Tax dept at the government has sent a letter to Vodafone warning that it may seize Vodafone assets if it doesn't pay the outstanding tax bill. In the letter, the tax department said that it may seek to recover any overdue amounts, even from overseas companies, "from any assets of the non-resident which are, or may at any time come, within India." The Indian government has argued that although the transaction took place via subsidiaries in Mauritius, as the bulk of the assets were within India, then taxes should be paid to the Indian government. In addition, under Indian law, it is the buyer of assets who pays taxes, not the seller. Vodafone International Holdings BV, a company registered in the Netherlands, acquired the entire share capital of CGP Investments (Holdings) Ltd; a Cayman Islands based company from Hutchison International (HTIL). CGP, itself, owns 52 per cent stakes in Hutchison India. Vodafone Essar has argued that Vodafone Holdings, CGP Investments as well as HTIL are foreign companies and as the transaction was structured through Mauritius, capital gains cannot have been accumulated within India. Also India and Mauritius have a double taxation avoidance treaty, so it would not be possible for India to apply capital gains tax on transactions that are already taxed within Mauritius. A High Court ruling was issued in favor of Vodafone, but the government then changed the law to make similar transactions subject to tax, and also retrospectively applied it to past transactions. The lack of legal clarity and the risk of doing business in a country where tax laws can be retrospectively changed spooked foreign investors. The current government had been making conciliatory noises about the situation, until this latest development. (February 18, 2016) Bloomberg

The Telecom Regulatory Authority of India (TRAI) has published its performance indicator report for the three months ended 30 September 2015, confirming its earlier claims that the instance of call dropping was increasing in certain areas. According to the report, operators failed to meet the overall call drop benchmark of 2% in four circles compared to three in June 2015, and 29.51% of the affected cells reported drop rates of worse than 3%, up from 24.59% three months earlier, and 12.50% in March 2015. In October 2015 the TRAI introduced new rules obliging cellcos to automatically compensate users at a

rate of INR1 (US$0.015) per dropped call, to a maximum of INR3 per customer per day. The rules came into effect from 1 January 2016 but have faced legal opposition from the nation's cellcos, which claim the rules could cost the industry INR540 billion per year. In addition to compensating consumers for poor quality of service (QoS) the new rules were also intended to encourage operators to invest in improving infrastructure to meet the demands of their growing subscriber bases.

(February 18, 2016) telegeography.com

The Telecom Regulatory Authority of India (TRAI) has called for the Department of Telecom (DoT) to amend a clause of the Unified License framework in order to enable it to set interconnection rates for VoIP calls, the Economic Times writes, citing a senior TRAI official. At present, the license refers to interconnection of networks carrying circuit-switched traffic and makes no provision for IP-based networks. The TRAI has the power to determine charges for interconnection, but is not authorized to alter licenses, however, which remains the remit of the DoT. The official explained that the regulator needs to move to facilitate interconnection, as IP-based networks continue to proliferate whilst circuit-switched networks are gradually being phased out. The loophole could potentially give rise to operational and service quality issues, and complicate the process of migrating to IP-based networks, the TRAI warned.

(February 15, 2016) The Economic Times

The telecom regulator has recommended suitable amendments in the Unified License to pave the way for interconnection to happen at the IP or 'internet protocol' level between licensed operators. If accepted by the government, users on newcomer Reliance Jio Infocomm's VoLTE-based 4G network will be able to call subscribers of other telcos who operate traditional `circuit switch' (CS) mobile networks, such as Bharti Airtel, Vodafone India or Idea Cellular, and vice-versa. Reliance Jio is tipped to commercially launch its 4G services by April. This interconnection was one area of concern for sector experts as under current rules, largely only Jio- to-Jio calls would have been possible, which could also have limited the telco's hand in offering local and international roaming services. Since "voice traffic is being carried over IP and traditional `CS' networks are gradually being phased out, there exists a need to facilitate interconnection at the IP level," which is why, "the Authority recommends the amendment to Clause 27.3 in the Unified License" for this to happen, said Telecom Regulatory Authority of India (TRAI) in its recommendations on `Interconnection over IP Interface'. The sector regulator has suggested that Clause 27.3 be reworded to broaden the scope of interconnection. "Interconnection between networks of different licensees for carrying CS traffic shall be as per national standards, and for (also) carrying IP-based traffic as per Telecom Engineering Centre (TEC) standards," says the amended Clause 27.3 of the unified license proposed by TRAI. The telecom regulator has recommended the tweaking of the Clause 27.3 in the absence of "an explicit clause relating to interconnection at the IP level in existing licenses". It has also suggested that similar "amendments to this effect may also be incorporated in relevant clauses" in other license agreements. The regulator, however, has retained a key portion of the existing Clause 27.3 that says a "licensee shall install a media gateway switch (read: a piece of hardware) for inter-networking between CS and IP-based networks". "If the telecom department accepts TRAI's proposals, Reliance Jio will be able to

both terminate and receive calls from any other mobile carrier operating a CS network by merely installing a media gateway switch" said B K Syngal, ex-chairman of erstwhile VSNL (now, Tata Communications), who is now Senior Principal at Dua Consulting. Mukesh Ambani-owned Jio, which recently started beta-testing its mobile broadband network by issuing connections to employees and friends, is looking at primarily at a VoLTE-based 4G rollout. In a VoLTE or `Voice over LTE' scenario, voice calls, typically, will be provisioned over a 4G LTE data network, instead of the circuit-switched 2G or 3G networks which are commonly used. The VoLTE technology, typically, allows voice to become just another app that rides on an LTE data network. Long-term evolution, or LTE, is the technology standard for delivering high-speed broadband services, popularly known as 4G. European brokerage Credit Suisse had recently said Jio's 4G voice coverage using VoLTE technology is at par with that of incumbents, which could pose a strong threat to rivals such as Bharti Airtel, Vodafone India and Idea Cellular.

(February 10, 2016) telecom.economictimes.indiatimes.com

Telecom regulator TRAI has recommended public-private partnership (PPP) model to revive Bharat Broadband Network (BBNL), India's national optical fiber project. The NOFN project aims to connect 250,000 Gram Panchayats (GPs) by laying 600,000 km of optical fiber in 3 phases: 100,000 GPs by March 2015, 100,000 GPs March 2016 and 50,000 GPs by March 2017. Due to poor management, the connectivity project suffered and TRAI took up the issue by issuing another set of recommendations. According to BBNL, the tenders for activities of trenching, ducting and laying fiber have been signed for over 50,000 GPs, but only 3,384 GPs had been connected as of November 2015. The BBNL project has already negatively impacted India's broadband projections. India has more than 120.88 million broadband subscribers — largely concentrated in Andhra Pradesh, Delhi, Karnataka, Kerala, Maharashtra and Tamil Nadu, with 27.20 million rural subscribers. The National Telecom Policy of 2012 (NTP 2012) aims to ensure broadband on demand by 2015, and 175 million broadband subscribers by 2017 with a minimum speed of 2 Mbps and up to 100 Mbps on demand. The negative impact on the cost of the project is significant. According to estimates, there will be increase in cost of the project under the BharatNet from the previous cost estimate to Rs 72,778 crore, and increase penetration by 1.9 percent of the estimated population in 2018-19. Last year, an expert committee had suggested a model involving the participation of Central public sector units in some states and the private sector for the engineering, procurement and construction (EPC) contracts for the fiber program. Telecom Regulatory Authority of India (TRAI) – headed by RS Sharma, said that a PPP model works better than EPC model.

BBNL targets
- Connect 2.5 lakh Gram Panchayats with broadband
- Lay 600,000 km of incremental optical fiber in three phases by 2017
- To spend more than Rs 72,778 crore

"A PPP model that aligns private incentives with long-term service delivery in the vein of the Build-Own-Operate-Transfer/ Build-Operate-Transfer models of implementation be the preferred means of implementation," said the telecom regulator in its recommendation titled Implementation Strategy for

BharatNet. At present, a special purpose vehicle Bharat Broadband Network under the Telecom Ministry – headed by Ravi Shankar Prasad — is handling roll out of optical fiber network. State-run telecoms such as BSNL, RailTel and Power Grid are running the broadband network project. TRAI said the task of rolling out broadband network should be given to a concessionaire selected through reverse bidding process to arrive at fund to be provided by the government. "A BOOT operator having incentive to complete the project in time, as his revenue stream from the project starts only on its completion, is more likely to anticipate problems and make all the efforts to resolve them early so as to complete the project well in time. The risk of delay in completion of the project is relatively less in such model than in EPC model," TRAI said. TRAI added that the current proposal envisages the network to be auctioned at the district level. This concept is fraught with the 28 danger of creating an administrative nightmare. Implementation of this proposal will result in a complex and unmanageable web of contracts. Assuming that one entity is auctioned one pair of fiber, there will be a minimum of a dozen contracts at each district. This will put the total contracts pan-India at 6,000 at the minimum. The telecom regulator said it is desirable to structure the private sector's involvement in a manner that aligns long-term incentives with the State's social and public service delivery objectives. The TRAI recommendation primarily focuses on the implementation part of the optical fiber project in India. (February 2, 2016) telecomlead.com

India telecom network operators Bharti Airtel, Vodafone, Idea Cellular and Reliance Communications may not bid for 700MHz spectrum during the 2016 spectrum auction. The main reason is the high price for the 700MHz spectrum. There are other reasons as well, says Fitch Ratings. The top four telecoms will not be willing to make investment in 700MHz due to their stretched balance sheets and need to preserve cash to challenge the entry of Reliance Jio, a part of Reliance Industries (RIL) in March-April 2016, said Fitch Ratings. Fitch Ratings said the 700MHz spectrum auction planned in H2 2016 may not be attractive to telecoms, given limited device availability and that telecoms possess alternative spectrum in 850MHz, 1800MHz and 2300MHz to roll out 4G services. Bharti Airtel owns about 40 percent of the private telecoms' 900MHz, and will offer 4G services in 1800MHz and 2300MHz. Reliance Jio, after making an investment of about $15 billion on spectrum and networks, has access to the pan-India 800MHz and 850MHz spectrum. The reserve price of $1.7 billion per MHz for pan-India 700MHz spectrum for deploying 4G services on 700MHz will be insufficient to offset the relatively high price. The reserve price of 700MHz spectrum is about 2.0x, 3.4x and 4.0x of the recommended reserve price for 800MHz, 900MHz and 1800MHz spectrum, respectively. In March 2015, the telecoms committed the largest-ever investment of $17.7 billion, mainly due to the necessity to retain their expiring spectrum to avoid network disruption. The auction saw aggressive bidding as spectrum offered was limited. Fitch Ratings did not say anything about the possible interest from telecom businessman Mukesh Ambani for the costly 700 MHz spectrum. Fitch Ratings says the 2016 spectrum auction may be less attractive to telecoms. The BJP-ruled government's decision to allow spectrum sharing and trading among telecoms could make bidding in spectrum auctions unattractive. It may be noted that Airtel Chairman Sunil Mittal earlier indicated that there will be six major telecoms in India after a series of consolidation. Reliance Communications

is in the process of grabbing MTS India and Aircel. Videocon India has agreed to sell its 4G spectrum to Idea Cellular. (February 1, 2016) telecomlead.com

Jamaica

The Jamaican government is considering the award of a third mobile network operator license, creating new competition for the well-established duo of Digicel and Flow (formerly LIME). Minister of Science, Technology, Energy and Mining Phillip Paulwell is quoted by the Jamaica Observer as saying that the plan has already been approved by the country's telecoms watchdog, the Office of Utilities Regulation (OUR), and the Spectrum Management Authority, and has now been passed to the Cabinet for discussion. A timescale for the licensing process has not been given. Jamaica is currently home to just over three million mobile users, with Digicel claiming more than two-thirds of the overall market. Digicel was able to tighten its grip on the island's mobile sector in late 2011 through the controversial acquisition of third-placed rival Claro Jamaica from Mexico's America Movil (AM). (February 1, 2016) telegeography.com

Kyrgyzstan

The government is planning to auction off its shares in Alpha Telecom, which operates under the Megacom brand, with a starting price of KGS18 billion-KGS19 billion (US$241 million-US$254 million). The report cites Almazbek Kadyrkulov, Head of the State Property Management Fund, as saying that the government made its decision in 2015, assessing the value of the company at the end of June that year. Meanwhile, Deputy Prime Minister Oleg Pankratov commented: 'It is necessary to avoid problems with corruption issues. As a result, we will find an investor, who will not only save the company, but ensure its development, and the state will not lose tax base. In market conditions, the state should not have commercial assets in the areas with sufficient competition.' Megacom was established, and until late 2009 owned, by BiMoCom, itself majority-owned by Russian-owned and Cyprus-registered Eventis Telecom affiliate Penwell Business. Following subsequent disputes, the government took full control of Megacom in July 2014. The company operates 2G and 3G networks with a total 98% coverage and 2.89 million subscribers as at end-September 2015. (February 8, 2016) 24.kg

Lithuania

The Communications Regulatory Authority (RRT) has published the final results of its auction of spectrum in the 880MHz-915MHz and 925MHz-960MHz paired frequency range, and the 1710MHz-1785MHz and 1805MHz-1880MHz paired band. The country's three existing mobile network operators – Tele2, Omnitel and Bite Lithuania – were the only participants in the auction, bidding a combined total of EUR38.1 million (USD42.5 million). With the highest bid of EUR14.3 million, Omnitel won the right to choose its preferred spectrum first, and the TeliaSonera-owned company selected block A2 (891.7MHz-903.3MHz and 936.7MHz-948.3MHz) and block B1 (1710MHz-1735MHz and 1805MHz-1830MHz). Mobile market leader Tele2 paid EUR13.7 million for its chosen blocks A3 (903.3MHz-914.9MHz and 948.3MHz-959.9MHz) and B2 (1735MHz-1760MHz and 1830MHz-1855MHz), while third-placed Bite Lithuania bid EUR10.1 million for A1 (880.1MHz-891.7MHz and 925.1MHz-

936.7MHz) and B3 (1760MHz-1785MHz and 1855MHz-1880MHz). The trio currently has the right to use the frequencies for wireless telephony and data services until October 31, 2017, and as such, the new licenses will be valid from November 1, 2017 to October 31, 2032. Omnitel, Tele2 and Bite will be required to ensure territorial coverage of at least 98% within three years from the date of authorization, as well as ensuring high speed (at least 30Mbps) wireless broadband population coverage of at least 85% of the country.

(February 9, 2016) telegeography.com

Malaysia

Malaysia's proposed spectrum reallocation will intensify competition as the country's two smallest operators will gain access to more capex-efficient spectrum, which will help them to challenge the two market leaders – Celcom and Maxis, Fitch Ratings said. The Malaysian Communications and Multimedia Commission (MCMC) plans to directly assign the 900MHz and 1.8GHz bands by August to Celcom and Maxis, and the two smaller players Digi and MVNO U-Mobile. The two bands will be fully available by 1 July 2017 for a period of 15 years. Digi has received 2x5MHz of 900MHz spectrum and 2x20MHz in the 1.8GHz band. Celcom and Maxis, with 29 and 30 per cent market shares respectively, had their spectrum allocations reduced to 2x10MHz in the 900MHz band and 2x20MHz in the 1.8GHz range. This will leave U-Mobile with 5MHz of 900MHz and 15MHz of 1.8GHz spectrum. U-Mobile previously only had spectrum in the 2.1 and 2.6GHz bands. The spectrum fees have yet to be determined, but there will be an upfront fee, with additional payments to be made in phases. Fitch didn't mention Prime Minister Najib Razak's statement in a budget speech that the government will optimize revenue from the telecoms spectrum through a "redistribution and bidding process". Analysts said the reallocation effectively means Celcom and Maxis will need to give back spectrum they currently own. The agency sees the two smaller operators benefitting from a larger allocation of the coveted 900MHz. The lower-frequency band is more cost-efficient for 4G deployment because of its wider coverage and better penetration within buildings. In addition to the spectrum reallocation, Fitch believes competition will intensify in the mobile sector following incumbent fixed-line operator Telekom Malaysia's domestic roaming arrangement with Celcom last week. This will enable TM to gain immediate nationwide wireless coverage and offer quad-play services. Fitch forecasts operators' revenue to grow by a low-single-digit percentage, as fiber broadband expansion is likely to offset the slow recovery in mobile revenues. U-Mobile reportedly is considering raising funds to pay for the spectrum via bonds, private debt securities or an IPO. (February 4, 2016) mobileworldlive.com

The Malaysian Communications and Multimedia Commission (MCMC) has outlined plans to reallocate frequencies in the 900MHz and 1800MHz bands among four telecoms operators by August this year, in line with the government's decision to optimize the use of spectrum resources through reallocation and bidding. As per the plans, the two aforementioned spectrum bands will be assigned, for a fee, to Celcom Axiata, Digi Telecommunications, Maxis and U Mobile for a period of 15 years, with the frequency assignments expected to be issued to the quartet by August 2016 for full implementation by July 1, 2017. Explaining the

reasoning behind choosing these operators for spectrum reallocation, MCMC chairman Dato' Sri Dr. Halim Shafie said that this was because all four already have sufficient infrastructure to expand upon, adding: 'The reallocation takes into account the development of the sector and the nation as a whole. Specifically, a high priority has been put on communications coverage, quality of service and affordability of services.' While the spectrum fee is yet to be determined, the MCMC has confirmed that, similar to the previous practice for 3G frequencies, payments will be made in phases, a system which it has claimed will allow operators to roll out services without passing on the cost to consumers. Looking ahead, meanwhile, Dr. Halim said that the regulator will also look to address 'the optimal usage of other relevant spectrum bands such as the 700MHz, 2300MHz [and] 2600MHz bands … by the end of 2016.' On the back of the regulator's announcement both Digi and Maxis have separately confirmed their new spectrum allocations. The former revealed it had been allocated 2×5MHz in the 900MHz band and 2×20MHz of 1800MHz spectrum for a 15-year period, while Maxis has reportedly received a reduced spectrum allocation of 2×10MHz and 2×20MHz for the 900MHz and 1800MHz bands, respectively. Prior to the reallocation exercise, Maxis – along with both Digi and Celcom – had 50MHz in the 1800MHz band, while it had 32MHz in the 900MHz band, more than Digi's 4MHz in the band, but less than the 34MHz allocated to Celcom. Notably, as per the current spectrum allocations, U Mobile had no frequencies in either of the two aforementioned bands. (February 3, 2016) telegeography.com

The Malaysia government's plan to raise cash by re-farming spectrum and holding an auction has riled operators and sent their share prices tumbling, wiping MYR9.45 billion ($2.28 billion) off the top three operators' market cap the day after the announcement. Malaysia's plan to auction spectrum, announced by Prime Minister Najib Razak as part an updated budget to boost government revenue, caught investors by surprise. He said in a speech that the government will optimize revenue from the telecoms spectrum through a "redistribution and bidding process", which will be implemented soon. Kuala Lumpur-based TA Securities telecom analyst Paul Yap told Nikkei Asia Review that "the revelation that it will be via a bidding process comes as a surprise" as the government has previously never had a spectrum auction. The move to re-farm the spectrum was widely expected. The country's 3G (2.1GHz) 15-year licenses are up for renewal in 2018-20, while the 2.6GHz spectrum's five-year assignment period is up for review in December 2017. An auction is likely to result in mobile operators paying billions of ringgit to retain or acquire more 900MHz and 1.8GHz spectrum. CIMB analyst Foong Choong Chen told Edge Markets: "This is a negative surprise, as our recent conversation with the Malaysian Communications and Multimedia Commission suggested that the regulator was quite happy and did not intend to disrupt the good progress made by the existing mobile operators in building out their mobile data networks." CIMB Equities Research said that Maxis and Celcom stand to lose the most, given the potential cash outlay for their larger spectrum holdings. While DiGi could obtain more 900MHz spectrum, it may have to fork out a lot of cash to win some in the auction, the Star Online reported. Axiata's shares fell 8.5 per cent on Thursday and Friday, while Maxis suffered a 6.4 per cent decline and Digi saw its shares drop 4.3 per cent over the two-day period. The government's move to generate funds from an auction are similar to efforts

by other countries, such as Pakistan, which has been pushing for a year to hold a spectrum sale that operators aren't keen to join. (February 2, 2016) mobileworldlive.com

Mali

With Alpha Telecom Mali, which secured the country's third mobile network operator license back in 2012, still to launch commercial services; the government is preparing to offer another concession. It is understood that the Malian authorities are aiming to launch a new international license tender before the end of March 2016, with a person close to the matter cited as saying that the country had 'lost a lot of time' waiting for the company to inaugurate its network. Alpha Telecom submitted a winning bid of XOF55 billion (approximately US$104 million) for its concession, but in November 2014 it was revealed that a prosecutor for the Ministre de l'Economie et des Finances (Ministry of Economy and Finance) had begun a preliminary investigation into the license award, following criticism of the process by the country's Office of the Auditor General at the start of that year along with the ongoing delays in the introduction of a commercial service and litigation linked to the payment of the fees for the concession.

(February 8, 2016) Les Afriques

Mexico

The bidding stage of Mexico's AWS auction has ended, with America Movil submitting the highest offers for three-quarters of the available spectrum, the country's telecoms regulator revealed on Thursday, adding that it will post the final results of the sale within 10 working days. America Movil, which is participating in the process through its local Telcel brand, has submitted bids worth 2.1 billion pesos (€103 million) for 2x10 MHZ of AWS-1 spectrum and 2x20 MHz of AWS-3 spectrum (1755-1780/2155-2180 MHz), the Instituto Federal de Telecomunicaciones (IFT) revealed. Taking its existing holdings into account, Telcel will have 2x20 MHz of spectrum in both the AWS-1 and AWS-3 bands, the regulator said. Auction participants were required to agree to the rearrangement of existing spectrum to allow for the creation of contiguous frequency blocks, which IFT says will enable more efficient use of the airwaves for the deployment of 4G services. AT&T, meanwhile, bid MXN1.03 billion for 2x10 MHz of AWS-1 spectrum, which in total will give it 2x25 MHz across the AWS band. Factoring in the annual license fees for the spectrum, the IFT claims the auction will yield close to MXN45 billion (€2.2 billion) in revenues over the next 15 years. America Movil will contribute around MXN31 billion and AT&T MXN12.7 billion, it said. The auction result changes the spectrum landscape in Mexico, the IFT noted. Presuming the result stands, America Movil will hold 41.2% of the total available spectrum in the IMT bands, up from 29.8% previously, the regulator explained. AT&T's share will drop to 38.2% from 43.7%, while Telefonica's will slide to 19.5% from 25.1%. Construction firm Grupo SAI will see its share fall to 1.1% from 1.4%. (February 19, 2016) totaltele.com

The Federal Telecommunications Institute (IFETEL) has approved the participation of AT&T Mexico (registered as AT&T Comunicaciones Digitales) and Telcel (registered as Radiomovil Dipsa) in the government's imminent Advanced Wireless Services (AWS) spectrum auction. The bidding will commence on 15 February. As previously reported by TeleGeography's CommsUpdate, 80MHz worth of 4G-suitable spectrum will be sold via a Combinatorial Clock Auction (CCA). In September 2015 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).

(February 8, 2016) telegeography.com

The Federal Telecommunications Institute (IFETEL) could stage its planned auction of 2.5GHz (2500MHz-2690MHz) spectrum as early as the second half of this year, Alejandro Navarrete, director of the watchdog's Radio Spectrum Unit has informed. The official noted, however, that it has yet to be established as to whether the concessions will be auctioned on a regional or national basis. In July 2015 IFETEL announced that, as part of its 'Plan Nacional de Espectro Radioelectrico', it will make available spectrum in the 2.5GHz band from 2016. The watchdog took the decision after taking into account the recommendations of the International Telecommunication Union (ITU) and the Comision Interamericana de Telecomunicaciones (CITEL). Local media reports had previously suggested that market newcomer AT&T had approached IFETEL with a request for a 50MHz block of frequencies in the 2.5GHz band.

(February 4, 2016) El Economista

Montenegro

Montenegro's Agency for Electronic Communication and Postal Activities (EKIP) has launched a public consultation regarding its planned multi-band spectrum auction. Frequency bands under consideration include: 800MHz (790MHz-862MHz); 900MHz (880MHz-915MHz/925MHz-960MHz); 1800MHz (1710MHz-1785MHz/1805MHz-1880MHz); 2000MHz (1900MHz-1920MHz/1920MHz-1980MHz/2110MHz-2170MHz/2010MHz-2025MHz); and 2600MHz (2500MHz-2690MHz). Interested parties are invited to submit their comments by March 11.

(February 16, 2016) telegeography.com

Myanmar

Myanmar's cellcos have raised concerns about the Ministry of Communications and Information Technology's (MCIT's) plans regarding spectrum management. The MCIT published a spectrum roadmap and plans for an auction of 2600MHz frequencies earlier this month, opening both for public consultation, but the officials from Telenor Myanmar and Ooredoo Myanmar have questioned the move, noting that the roadmap will not be finalized and implemented before the auction, scheduled for late March. Ooredoo CEO Rene Meza wrote: 'We are extremely concerned about this action. The first order of business should be a coherent spectrum roadmap. Auctions should follow once the roadmap is in place. To conduct beforehand a hasty, insufficiently planned auction is truly putting the cart before the horse.' His counterpart at Telenor, Petter Furberg, meanwhile, added: 'We think it's a rush and unnecessary to auction out spectrum before you actually have agreed on the plan for how you want to use the spectrum going forward.' Both executives also questioned the government's rush, pointing out that the spectrum was

not a high priority for the sector, especially compared to frequencies in the 700MHz or 1800MHz bands. An unnamed industry source was cited by the paper as saying that the government was keen to conclude the sale before the transition to a new administration, following the current government's defeat in the polls in late 2015. (February 17, 2016) The Myanmar Times

Myanmar's fourth mobile network license is set to be awarded later this month, the government has confirmed, after seven companies submitted bids. The winning bid is to be set up as a joint-venture between the foreign company and a local firm which is being formed from 11 local companies designated by the government. When set up, the local consortium will own 51 percent of the company, with the foreign investor owning the remaining 49 percent. "We will choose the foreign partner from seven applicants. I can say now that we're finalizing the process and will issue the license this month," said Chit Wai, deputy permanent secretary of the Ministry of Communications and Information Technology. Telenor and Ooredoo are the current two foreign owned mobile networks, competing against the state-owned MPT. (February 12, 2016) cellular-news.com

Namibia

Namibia's MTC has blamed delays in a network upgrade on the lack of radio spectrum being supplied by the telecoms regulator. MTC Nambia plans to spend N$1 billion (US$62 million) on network upgrades, but company spokesman, Tim Ekandjo says that the implementation of the project is now at risk because the regulator won't release the necessary spectrum. MTC has said that its upgrade project will expand 3G coverage to 64 percent of the population, and allow the expansion of its urban 4G network. However, the regulator has indicated that the mobile network is seeking spectrum while it still has unused assets that could be deployed, and the regulator wants the unused spectrum to be used first. (February 11, 2016) cellular-news.com

Namibia's dominant cellco Mobile Telecommunications (MTC) says that its plan to invest NAD1 billion (US$62 million) in expanding 3G and 4G networks is currently stalled due to a lack of frequencies, The Namibian reports. Spokesman Tim Ekandjo claimed that the implementation of the project is at risk because the Communications Regulatory Authority of Namibia (CRAN) has not allocated MTC the necessary spectrum, although an industry source quoted by the newspaper reckoned that the CRAN has not granted MTC's requests because the company wants additional spectrum before it fully utilizes its current allocation. Last year, MTC announced plans to upgrade its 3G and 4G network in urban areas, but if the CRAN allocates additional frequency, Ekandjo said that 3G/4G will cover more rural areas and 64% of the population. 'To successfully implement this project, MTC requires only 5MHz of 900MHz spectrum to roll out 3G in rural areas and 5MHz for expanding 3G in urban areas. If granted to MTC, this will bring MTC's total spectrum allocation to 73MHz, which will still be lower than that of Telecom Namibia and Paratus,' he said. MTC currently has a total of 63MHz of frequencies, while Telecom Namibia has a total allocation of 132MHz in various bands and mobile sector newcomer Paratus 80MHz (including the latter's original WiMAX license). According to statistics provided by Ekandjo, 1.4 million of MTC's subscribers or 57% already use data, 21% using the 3G/4G network

and 36% using 2G devices. In October last year MTC commissioned eight new 3G sites in the North. In November, another ten 3G sites were commissioned in Swakopmund and Walvis Bay. At the end of last year, MTC commissioned ten additional 3G sites in Windhoek. By the end of December 2017, MTC plans to deploy another 127 3G sites and 116 4G sites, Ekandjo added. In related news, the CRAN last week held public hearings on sharing telecoms and broadcasting infrastructure. CRAN CEO Festus Mbandeka said that the hearings will lead to the completion of a consultation process on establishing an effective regulatory framework on network sharing, under the stipulations of the Communications Act which requires dominant carriers to share infrastructure to promote fair competition. The CEO added that 'the primary purpose of the proposed legal framework is to provide for an infrastructure sharing regime that would create fair competition and a leveled playing field between and amongst existing and future licensees,' which he said will lower barriers for new entrants and other industry players and ultimately enable the offering of a wider range of communications services to consumers without unnecessary duplication of infrastructure. (February 4, 2016) telegeography.com

Netherland

The Dutch government has presented a proposal to auction the digital terrestrial TV license in July. The DTT service is currently operated by KPN's Digitenne, and its license will expire in February 2017. According to the draft proposal from the economic affairs and culture ministries, the plans should be finalized by April, in order to open applications for the licenses in May. The new license would run until February 2030, in the 470-790 MHz band, up to the edge of the spectrum reserved for mobile services. The license holder will be expected to ensure a smooth transition with Digitenne and offer a similar level of coverage, with a minimum 25 TV and radio channels. While no technology has been set, the government has said previously it prefers DVB-T2. In response, KPN said the government's timeframe is too short. The operator wants its current license extended by two years, in order to ensure a smooth transition. The government had previously considered this plan, but late last year another, unnamed candidate for the license emerged. KPN added that it supports the move to DVB-T2, which offers room for more channels, and in HD. This will also be needed when the 700 MHz band is opened to mobile services from 2020. However, the upgrade will require all network equipment to be replaced and new receivers for all subscribers. KPN reported at the end of 2015 381,000 customers for Digitenne and its analogue TV services. That compares to over 1.8 million subscribers for KPN's IPTV services. (February 9, 2016) telecompaper.com

New Zealand

The Commerce Commission has released a report detailing the findings of its review of standard form consumer contracts in the telecommunications sector. The review was completed to assess the sector's compliance with the unfair contract terms provisions of the Fair Trading Act introduced in March 2015. The unfair contract term provisions are designed to protect consumers from contract terms that create a significant imbalance of rights or obligations between the company and the consumer. After the new provisions were introduced the Commission launched a project

to review a range of standard form consumer contracts for unfair terms. Commissioner, Anna Rawlings said the telecommunications sector was chosen as its first focus for two reasons. "Overseas regulators told us in their experience it was an industry in which potentially unfair terms were common. In addition, many of the past complaints we had received about unfair contract terms related to telecommunications contracts." As part of the project 19 separate standard form contracts from 7 different companies were reviewed. "The majority of telco companies had made real efforts to comply with the provisions before they were introduced. However, we did identify 66 terms that we considered potentially unfair. Many of the terms were common across the contracts, particularly those that limited the liability of the company, allowed the company to unilaterally vary the contract or made the customer responsible for unauthorized charges," Ms. Rawlings said. In some instances the companies were able to provide information to the Commission to show that the term was necessary to protect the legitimate business interests of the company. In all other cases, the companies accepted the Commission view and have amended or agreed to amend the terms concerned. "This is a great outcome for New Zealand consumers. Most New Zealanders have one or more standard form consumer contracts with a telecommunications company and they can now be more confident about the fairness of those contracts. We were pleased that the telco companies were receptive to our concerns, amending or agreeing to amend the majority of terms, avoiding the need for the Commission to consider court action," Ms. Rawlings said. All companies have been issued with compliance advice letters from the Commission reminding them of their obligations under the law and cautioning them to ensure their standard form contracts remain compliant with the law. (February 10, 2016) cellular-news.com

Nigeria

Effort to protect telecommunication infrastructure across the nation will soon start yielding the expected result as the regulatory authority, the Nigerian Communications Commission has disclosed that the Commission was consulting with law makers to finalize a bill on critical infrastructure protection. The Excutive Vice Chairman of NCC, Prof. Umaru Garba Danbatta who disclosed this in Lagos recently during a road show campaign against vandalization of telecom infrastructure in Nigeria noted the bill seeks to treat all telecom infrastructures as public property. The road show, he noted provided another opportunity to urge the national legislature to give an urgent consideration In passing the bill into law in order to give more legal teeth in the prosecution of offenders and enable the Commission protect telecom infrastructure for the benefit of the Nigerian citizens. According to him, the benefits and the useful services the country is currently enjoying now were threatened by the spate of vandalization of telecom infrastructure across the country. "We are worried that vandalization of telecom infrastructure is slowing the pace of growth, contributing to poor quality of services "Vandalization of infrastructure comes in several ways. Some vandals cut or destroy cables that provide services across geographical distances or communities. Some engage in stealing of generators or diesels which are used to power base stations that make services available at all times. "We have situations where local communities or individuals bar technical staff of the service providers from installing equipment or carrying out repair on existing systems. We have situations where people engage in wilful destruction or damage of telecom infrastructure in order to extort money from service providers. "The industry has continued to lose huge sums of money as a result of vandalization of telecom infrastructure and more importantly, the nation has lost a lot of services as a result of this menace", he noted.

(February 14, 2016) vanguardngr.com

The number of active GSM lines in Nigeria – Africa's largest mobile market by subscribers – grew by 8.7% in 2015 to reach a total of 148.681 million at the end of December, according to the latest figures from the Nigerian Communications Commission (NCC). In comparison, the number of active mobile CDMA lines declined by 1.8% from 2.188 million at the end of December 2014 to 2.149 million twelve months later. Combined, the total number of GSM and CDMA mobile lines totaled 150.830 million at December 31, 2015, an increase of 8.5% from 138.960 million in 2014. The regulator reported that the West African nation ended 2015 with just 187,155 fixed and fixed-wireless lines in service, up slightly from 183,290 the previous year. (February 12, 2016) telegeography.com

The Nigerian Communications Commission (NCC) plans to auction off the five remaining regional infrastructure company (InfraCo) licenses within the next six months, said regulator's executive vice chairman, Umar Garba Danbatta, as saying at a press conference. The regional 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, permits will be awarded for the five remaining zones, namely: North East, North West, South East, South West and South South. MainOne Cable and IHS secured the first two concessions – for Lagos State and the North Central Zone, respectively – in January 2015, although the NCC says that it is currently engaging with the two companies to resolve issues hindering infrastructure rollout in the two zones. (February 3, 2016) The Daily Trust

The Association of Licensed Telecommunication Operators of Nigeria (ALTON) has warned that local government agencies are threatening to shut down base transceiver stations (BTS) in a number of states if companies fail to pay multiple taxes and fees. ALTON's executive chairman Gbenga Adebayo as saying at a press conference that services are being affected by parties working on behalf of tax-raising bodies in the states of Ogun, Ondo, Akwa Ibom, Ebonyi, Kaduna and Osun, and has warned that telecoms operators may opt to shut down sites that have been subject to local taxation. 'We believe that taxes and levies should be broad-based and fairly distributed across all sectors of the economy,' he said, adding: 'There is therefore no justification for targeted and sometimes very high taxes on telecom operations. We are calling for a cross-sector/multi-stakeholder approach to reduce the growing burden of taxation on our industry.' (February 1, 2016) BiztechAfrica

Paraguay

Telecoms operators Tigo and Claro met the February 14 deadline for the final payment of their respective 4G licenses, La Nacion reports. The concessions cost each operator US$45 million at auction, with both cellcos required to pay a deposit of US$15 million following

the conclusion bidding in December 2015. The US$30 million balances have now been paid in full, enabling Tigo and Claro to now move ahead with their commercial launches. Both expect to activate 4G networks within three months. In other news, Tigo parent Millicom International Cellular (MIC) has addressed recent press speculation by confirming that it has sealed the takeover of TV Cable Parana, the leading cableco in Ciudad del Este, Paraguay's second largest city. According to MIC's press statement, TV Cable Parana's network passes around 40,000 homes, and has approximately 15,000 clients on its books. The transaction is subject to regulatory approval. Mauricio Ramos, CEO of MIC, commented: 'This acquisition is an example of an investment that adds value to our core business and which will deliver multiple post-merger synergies, leveraging our existing assets in Paraguay such as our network, our customer base and our content'. (February 17, 2016) telegeography.com

Peru

The Agency for the Promotion of Private Investment (ProInversion) has reportedly set a minimum price of USD248.7 million for each block (2×15MHz) of 4G-suitable spectrum in the 700MHz band. While the agency previously claimed that the auction would be held in Q1 2016, it has yet to reveal the final date for the tender. The 4G tender – which was originally scheduled for 2013 – has since been postponed several times, with sales lined up to take place in June 2014, then December 2014, Q1 2015 and now Q1 2016, though no reason has been given for the delays. Three blocks of the highly sought-after frequencies are up for grabs, and all four of the nation's cellcos – Movistar, Claro, Entel and Bitel – have expressed an interest in bidding for the airwaves.

(February 8, 2016) TeleSemana

Poland

NetNet, a winning bidder in Poland's auction of 800MHz wireless spectrum last year, has asked the Office of Electronic Communications (UKE) to withdraw its reservation. The start-up firm, which is linked to Zygmunt Solorz-Zak's Midas Group, agreed to pay PLN2.05 billion (US$548 million) for a 5MHz block of paired spectrum in the 800MHz band suitable for 4G LTE services. The second highest bidder for that block was T-Mobile Poland, with an offer of PLN2.02 billion, the same amount which won it an adjacent block in the 800MHz range, and it is thought that the German-owned telco could now take over NetNet's frequencies to enlarge its holdings in the band. (February 12, 2016) Rzeczpospolita

Russia

Russia's Ministry of Communications (Minsvyaz) has announced the completion of an open tender for 2600MHz 4G mobile frequency licenses. The ministry revealed that it sold 81 regional and one federal lots of spectrum to six unnamed telecoms operators for a total of RUB8.3 billion (US$108.9 million); two regional spectrum lots, meanwhile, remained unsold. In early February Russian telecoms regulator Roskomnadzor said that all eight applications to participate in the 2600MHz tender were approved. Applications to bid for spectrum in the 2570MHz-2620MHz band were submitted by Mobile TeleSystems (MTS), VimpelCom (Beeline), MegaFon, Tele2 Russia (T2 Mobile), Your Mobile Technologies, R-TeleCom, Yekaterinburg-2000

and Vaynakh Telecom. (February 22, 2016) telegeography.com

Telecoms regulator Roskomnadzor said that all eight applications to participate in a secondary tender for 2600MHz 4G mobile frequency licences have been approved. Applications to bid for spectrum in the 2570MHz-2620MHz band were submitted by Mobile TeleSystems (MTS), VimpelCom (Beeline), MegaFon, Tele2 Russia (T2 Mobile), Your Mobile Technologies, R-TeleCom, Yekaterinburg-2000 and Vaynakh Telecom.
(February 9, 2016) telegeography.com

Senegal

The Regulation Authority of Post and Telecoms (ARTP) in Senegal has published its market observatory for the fourth quarter of 2015, illustrating that growth in the country's mobile sector slowed in 2015 as the market reaches near saturation levels. Senegal was home to more than 14.958 million cellular users at 31 December 2015, up 4% from 14.380 million a year before, although quarterly growth decelerated to 0.82%, 0.60% and just 0.34% in the second, third and fourth quarters, respectively. Marginal gains were reported from Orange and Expresso Telecom in Q4 – the former's base was up 1.05% quarter-on-quarter to 8.415 million, while Sudatel-backed Expresso edged up 0.41% to 3.188 million – while second-placed Tigo saw accesses fall by 1.46% to 3.356 million from 3.406 million at 30 September. The fixed line sector, meanwhile, went into reverse. The total number of broadband (i.e. ADSL) connections slumped 1.05% q-o-q and 3% over the year to 100,611 from 103,362, while dial-up usage also stagnated at 18,436 lines and fixed telephony customers dropped to 300,219 from 311,945 previously. Incumbent PTO Sonatel (Orange) controlled 94.3% of all fixed telephone lines at that date, compared to 91.1% at end-2014, and Sudatel had the remainder (5.7%). Sonatel (Orange) also has a monopoly on the ADSL segment.
(February 22, 2016) telegeography.com

Singapore

Singapore's telecoms regulator shared its plans for this year's multi-band spectrum auction, and set a reserve price for the frequencies it has reserved for a new mobile operator. The Infocomm Development Authority of Singapore (IDA) will carry out the sale of spectrum in the 700 MHz, 900 MHz, 2.3 GHz and 2.5 GHz bands before the end of this year. The allocation process will take place in two parts, the first being the auction of a package of frequencies reserved for a new operator. Companies that do not already operate a nationwide mobile network in Singapore will be able to take part in the new entrant auction, provided they pass the prequalification phase, the regulator said. Would-be new entrants will be able to bid on a package of 60 MHz of spectrum in the 900 MHz and 2.3 GHz bands, which carries a reserve price of S$35 million (€22.5 million). "Potential new entrants… indicated strong interest to enter the mobile market," the IDA said, in a statement. It did not give any further indication of how many companies it expects to take part in the auction. However, it has made provision for the reserved spectrum in the event that there is no qualified bidder for the new entrant auction: it will be sold in part two of the process, which is open to the country's existing operators, Singtel, StarHub and M1, in addition to the winner of the new entrant package. This general auction will include 175 MHz of spectrum across all four available bands; Singapore has 235 MHz up for

grabs in total. The 700-MHz and 900-MHz frequencies will be split into lots of 2x5 MHz and will carry a minimum price of S$20 million per lot. 5-MHz lots of 2.3-GHz and 2.5-GHz frequencies have a reserve price of S$3 million. Licenses in the 700 MHz band will start from January 1, 2018 and will have duration of 15 years. All other bands are available from April 1, 2017 and licenses will last for 16 years. "The spectrum auction is designed with the interests of consumers in mind. The spectrum made available will allow all mobile operators to roll out or enhance their high speed networks as early as 2017," said IDA managing director Jacqueline Poh. "Having more players in the market will give consumers a greater choice in selecting an offering that best suits their needs," Poh said. Should a new entrant win spectrum it will be allowed what the IDA describes as a "reasonable period" to build out its network. It will be required to offer nationwide coverage outdoors by September 30, 2018, road tunnel and in-building coverage a year later, and coverage of the underground rail network by the end of September 2021. (February 18, 2016) totaltele.com

South Africa

South Africa's mobile operators need more spectrum to facilitate the wider rollout of high-speed broadband services, the country's telecom regulator said this week. Pakamile Pongwana, chief executive officer of the Independent Communications Authority of South Africa (ICASA), warned that the country risks falling behind in broadband and as a result constraining GDP growth, Bloomberg reported on Tuesday. He said he would like to see an auction take place before the end of the year. However, the government must approve spectrum auction policy before ICASA can move forward with any sale. The government has been discussing the spectrum issue for the past decade. A spectrum auction would be the best method of allocating new frequencies, Pongwana said, noting that other methods, including beauty contests, have resulted in legal challenges. An auction would ensure fair competition, he said, adding that "everybody" the regulator has spoken to is keen for a spectrum sale to go ahead. Indeed, Vodacom told Bloomberg that it welcomes any intervention by the regulator with regard to pushing the spectrum auction. Operators are experiencing "an acute shortage of spectrum," a company spokesperson said.

(February 16, 2016) totaltele.com

South African government has announced a significant milestone in the analogue to digital terrestrial television (DTT) migration project by kick-starting the process of 'dual illumination', during which analogue and digital signals will coexist. The dual illumination period started on February 1 and is expected to last 'several years' until analogue signals are switched off at a future date, yet to be determined by cabinet. MultiChoice was the first provider to launch commercial DTT services by introducing its GOtv service via its subsidiary M-Net. The platform offers two standard definition channels for ZAR49 (USD3.1) or twelve channels for ZAR99; subscribers also gain access to free-to-air content from SABC, e.tv and community broadcasters. the migration process, which was originally scheduled for completion in November 2011 in line with a Cabinet decision taken in 2007, has since been pushed back to December 1, 2013, and subsequently June 17, 2015 (the International Telecommunication Union's [ITU's] deadline for analogue switch-off). The country failed to meet the international deadline, though the cabinet pledged in December 2015

to initiate the project on February 1, 2016. Minister in the Presidency Jeff Radebe said at the time that the migration from analogue to digital broadcasting services would release 'the much-needed frequency spectrum' – suitable for the provision of 4G LTE mobile broadband services – and would increase the competitiveness of the South African economy. (February 4, 2016) TechCentral

South Korea

South Korea's ICT ministry did not award a fourth mobile license to any of the three firms submitting applications because they lacked qualifications. The Ministry of Science, ICT and Future Planning (MSIP) said all three companies failed to meet the minimum requirements, Yonhap news agency reported. K Mobile, Sejong Telecom and Quantum Mobile passed an initial government assessment in November, and a MSIP committee was assigned to assess the companies' service, financial and technology capabilities. The ministry said the firms needed a score of at least 70. Quantum Mobile was rated 65.95, Sejong Mobile had a score of 61.99 and K Mobile had a 59.64 rating. "All three firms lacked credibility and viability of their fund-raising plans, and they also lacked detailed plans on ways to establish networks and provide services," the ministry said. MSIP said in May it would introduce measures to pave the way for a fourth operator. The ministry has long discussed the need for an additional operator to bring more competition to the market, which is dominated by three operators — SK Telecom, KT and LG Uplus. In August it started accepting applications. The government introduced the plan to add another mobile player in 2010, but none of the firms applying for the license in six bids have met the requirements. Sejong Telecom is a mobile virtual network operator (MVNO). K Mobile was set up by executives who left Korea Mobile Internet, which failed to win a licence after six attempts but didn't participate in this round. Quantum Mobile is held by a consortium, including Solid Inc, which took over South Korea's smartphone maker Pantech. SK Telecom has a 49 per cent share of the country's mobile connections, while KT has a 32 per cent share and LG Uplus has a 19 per cent share, according to GSMA Intelligence.

(February 2, 2016) mobileworldlive.com

Spain

Spanish telecoms regulator the Comision Nacional de los Mercados y la Competencia (CNMC) has proposed stricter controls on radio spectrum, saying that such a move was 'essential' to ensure that companies are using spectrum effectively and efficiently. In addition, the watchdog has suggested that the revised rules would also help avoid 'speculative hoarding and anticompetitive rights use'. As such, it has proposed that the Ministerio de Industria, Energia y Turismo (MINETUR) amend the draft royal decree on the use of public radio spectrum (IPN/DTSA/026/15/Reglamento espectro). The regulator has recommended a more intensive monitoring of spectrum, claiming that the MINETUR has a wealth of information which would allow it carry out such checks. Specifically, the CNMC has argued that controls should also be extended to bands commonly used for Wi-Fi technology. Meanwhile, it has also suggested that in order to avoid competition issues with regards to spectrum sharing a mandatory report should be produced which would allow for the implementation of commitments in frequency sharing agreements. Finally, the CNMC has recommended

tweaking existing regulations to ensure that MVNOs do not face an 'additional barrier to the already difficult process' of negotiating new or updated deals with the nation's network operators. (

February 3, 2016) telegeography.com

Sweden

Sweden plans to put a single block of 1800-MHz spectrum up for sale towards the end of the year and is canvassing opinions on the auction process. Last week the country's telecom regulator, the Swedish Post and Telecom Authority (PTS), held a meeting to go over its proposals for the auction and has invited interested parties to submit written comments, setting a deadline of February 24. The PTS will sell off a single 5-MHz block of paired 1800-MHz spectrum, with license duration of 10 and half years, beginning on June 1, 2017. The auction itself is due to take place in the fourth quarter of this year. PTS has set November 1 as a preliminary auction date. It did not share any guide prices for the spectrum. The auction will be conducted via sealed bids.

(February 9, 2016) totaltele.com

Swedish telecoms regulator PTS is conducting a consultation on its plans to assign a 2×5MHz block in the 1800MHz band (block '14') through a spectrum auction, with a preliminary auction date set for November 1, 2016, it disclosed in a press release. Industry stakeholders can submit comments by February 24 on the plan which involves a highest price, closed bid auction with a minimum floor bid, and a license period June 1, 2017 to December 31, 2027. PTS will finalize the exact spectrum block placement depending on the auction winner, to prevent interference in neighboring frequencies. As it stands TeliaSonera Sweden holds 2×35MHz in the 1800MHz band (1710MHz-1745MHz / 1805MHz-1840MHz) whilst the joint infrastructure venture Net4Mobility has access to another 2×35MHz block (1745MHz-1780MHz / 1840MHz-1875MHz). The latter block is owned by Tele2 Sweden (2×15MHz) and Telenor Sweden (2×10MHz) with 2×10MHz directly held by Net4Mobility. (February 8, 2016) telegeography.com

Tanzania

The Tanzanian Communication Regulatory Authority (TCRA) will auction frequencies acquired at the World Radiocommunication Conference 2015 (WRC-15) in order to boost mobile broadband usage in the country. TCRA Director General, Dr. Ally Simba, said that the move is aimed at bringing transparency, commenting: 'Previously, we were giving [frequencies] as per application, but this time around, they will be auctioned and we will ensure that they will be used for the intended goals to improve the economy.' The newly acquired spectrum includes frequencies in the 694MHz-790MHz, 1427MHz-1492MHz and 3300MHz-3600MHz bands, which will be used for broadband services, in addition to creating an emergency service mobile network. A date for the auction has not yet been announced.

(February 15, 2016) Daily News

Thailand

Telecom regulator NBTC threatened to file a lawsuit against local mobile operator Jasmine International if the company fails to pay the first installment of the THB 75 billion ($2.1 billion) it bid for a license to operate spectrum in the 900 MHz band. The regulator also threatened Jasmine with the revocation of operating licenses. The two 900 MHz license winners, Jasmine and True Corp, have until March 21 to pay the first installment of the LTE license fee. The regulator said it may have to organize a new spectrum auction if Jasmine fails to meet the deadline. True Corp CFO Noppadol Dej-udom recently said the company was ready to meet the payment and bank guarantee conditions. According to local press reports, Jasmine has faced difficulty securing a bank loan to pay for the license due to the high cost. Jasmine is in talks with potential joint venture partners in Singapore and Malaysia, with one possible candidate being Singaporean state investment vehicle Temasek Holding or its majority-owned subsidiary SingTel. Jasmine previously announced plans to invest THB 25 billion to roll out its LTE wireless broadband network over the next three years. Half of the budget is set to be used this year and the company expects to attract at least 10 million LTE customers by 2018. Current mobile operators in Thailand are Advanced Info Service, Total Access Communication (DTAC) and True Move.

(February 15, 2016) rcrwireless.com

Trinidad & Tobago

The Telecommunications Authority of Trinidad and Tobago (TATT) discloses that contracts were signed on February 16, 2016 between the country's telecoms service operators and specialist provider Porting XS (Netherlands) to implement commercial mobile number portability (MNP) from March 31, 2016.

(February 18, 2016) telegeography.com

Ukraine

Ukraine's telecoms regulator, the National Commission for the State Regulation of Communications and Informatization (NCCIR or NKRZI), has extended the duration of GSM mobile operating licenses held by domestic cellcos MTS Ukraine and Kyivstar. In a statement published on its website, NCCIR confirmed that following a meeting held on February 9, 2016 it has extended the GSM-900 concessions held by MTS Ukraine in the Poltava, Cherkasi, Chernivtsi and Vinnitsya regions, as well as renewing its rights to offer GSM-1800 services in the Donetsk region and the city of Kiev. Turning to Kyivstar, the autonomous industry regulator has lengthened its GSM-900 license in the Poltava, Zhitomir, Volin, Kherson, Lugansk, Kiev, Cherkasi, Vinnitsya and Zaporizhzhya regions, plus its GSM-1800 license in Kiev and the Dnipropetrovsk, Odesa and Lviv regions. (February 10, 2016) telegeography.com

United Kingdom

The UK government will scrap a £150 million mobile infrastructure project next month, admitting failure to progress the initiative designed to improve connectivity in rural areas. The project, first unveiled in 2011 and rolled out in 2013, proposed the construction of 600 masts in the country within three years, targeting the end of so called 'not spots' in remote areas without sufficient mobile connectivity. However, during a governmental debate held last week, the Daily Telegraph reports the UK's digital economy minister Ed Vaizey said just 15 masts had been set up so far, admitting he is

"guilty as charged" over the project's failure. I do not think the program has been a success, and I do not think that ministers often say that about their own programs," Vaizey told MPs. "We set aside £150 million. We talked about 600 sites. Our heart was in the right place." When the scheme first kicked off in 2013, ministers said it would "help connect rural communities, create local jobs and contribute to economic growth". The country's four operators (EE, O2, Vodafone and 3 UK) also pledged support, stating they will fund each sites' operating cost for up to 20 years, with the £150 million intended to build the infrastructure. Vaizey said part of the project's slow progress was down to the country's mobile players, as well as objections from local residents and planners. "We were dragging the four operators with us, metaphorically kicking and screaming," he said. By the end of 2015, the project cost a reported £9.1 million. David Dyson, CEO of 3 UK, also addressed the issue of 'not spots' in an interview with the Financial Times earlier this week, as he pushed reasons why the company's proposed £10.5 billion acquisition of rival O2 should be approved. The merger is currently going through European regulatory scrutiny, with concerns that it will hurt competition as it removes a competitor in the UK market. "There is a significant imbalance in the market," he said. "People will think four operators are good because the UK works well. I fundamentally disagree, and you would find a lot of support from consumers and governments given the 'notspots', reliability of networks and 4G rollouts."

(February 17, 2016) mobileworldlive.com

United States

The FCC has adopted rules aimed at encouraging competition in the set-top box market. The proposal would see pay-TV providers required to make available certain programming information so third parties could develop alternative boxes or software for accessing the consumer's video subscription. Specifically, it recommends that pay-TV providers be required to deliver three core information streams: service discovery, with information about what programming is available to the consumer, such as the channel listing and video-on-demand lineup, and what is on those channels; entitlements, including information about what a device is allowed to do with content, such as recording; and content delivery, the video programming itself. To protect pay-TV providers and their own license agreements, the rules do not mandate a single security system but simply require providers to offer at least one content protection system that is openly licensed on reasonable and non-discriminatory terms. This gives providers the ability to create their own content protection system to prevent theft and misuse, while ensuring that manufacturers will be able to build devices that can access protected content from a variety of pay-TV operators. Content providers would maintain the same agreements with pay-TV providers and full copyright protection, while basic rules such as children's programming advertising limits and emergency alerts would apply regardless of whether the consumer leases the pay-TV operator's box or a competing service for accessing video programming. The FCC's proposal will be open for public comment before the final rules are adopted. The regulator also adopted at its latest meeting other decisions impacting the pay-TV market, include a tightening of rules on providing closed captioning for deaf and hearing-impaired people and starting a broader public consultation on ensuring diverse programming on TV. The latter seeks comment on the

principal challenges independent video programmers face in gaining carriage of their content on both traditional and emerging distribution platforms. This will help the Commission assess the current state of video programming diversity and determine whether further action is needed to promote independent programming sources. The American Cable Association called the FCC's proposals "troubling" given that the market was already in a process of change due to the emergence of new OTT video providers and was likely to look much different in the next few years. "It is best for consumers to let this marketplace continue to evolve unimpeded by backward-looking regulations," the industry group said. It also warned that the proposed rules would create an excessive and costly burden for smaller pay-TV operators. The US Telecom group was equally dismissive ove the FCC's proposals, saying they will stifle innovation in the sector. Noting the already wide range of choices available to consumers for accessing video services, the industry group said that "the FCC's thumb on the scales will inevitably straightjacket innovation and harm competition, neither of which will serve the public interest". Set-top box maker Tivo was more positive on the proposal, saying it's "hopeful that this proceeding results in a competitive environment that increases choice, both for consumers and operators". Tivo said this could also offer a successor to the CableCard, an earlier system required by the FCC for cable operators to offer a way to bypass the set-top box in order to access video programming on other devices. However, the CableCard system offers limited functionality, and the industry has been unable to reach agreement on an update to the system. (February 19, 2016) telecompaper.com

A fight over privacy at the Federal Communications Commission, sparked by last year's net neutrality rules, is heating up. The FCC is expected to craft regulations in the coming months on how broadband providers handle sensitive customer data – and advocates on both sides of the issue are gearing up to make their case. Consumer advocates are hoping the commission drafts stricter rules for how companies like Comcast and Time Warner Cable treat customers' information. "They're in a unique position to have knowledge of all sorts of extremely sensitive information," said John Simpson, the director of the privacy project at Consumer Watchdog. But industry groups are wary of the FCC crafting new rules and say any framework should match standards already in place. Before the net neutrality ruling, the Federal Trade Commission policed privacy at both Internet service providers and online companies like Google and Facebook, using the same standards. "Well, I think essentially, the key point is that consumers have certain expectations as to how their private information will be treated," said Lynn Follansbee, a vice president for law and policy at USTelecom, which represents broadband providers. "And we just take a position that no matter, across the whole Internet ecosystem, no matter what kind of technology is involved, consumers shouldn't be surprised." The privacy fight stems from the net neutrality rules approved in a party-line vote by the FCC a year ago. The commission treated Internet service providers like traditional phone service to apply new rules requiring all Web traffic to be handled in the same way. That left the FCC in the difficult spot of applying privacy regulations for phone companies to broadband providers. Those rules protected information on whom a customer called and when, for example. But applying those regulations directly to new technology would have been a tall order for the agency. The commission decided

last year to instead create new regulations exclusively for broadband service. So far, Chairman Tom Wheeler has not floated a proposal for his fellow commissioners to consider, and the item didn't show up on the agenda for the FCC's February open meeting. An FCC spokesperson said she couldn't provide any new information about timing but noted that Wheeler said in November that the commission would tackle the issue in the "next several months." It's also possible that a federal court will rule that the agency's action on net neutrality was illegal —upending the FCC's role in regulating Internet service. Barring a court ruling, however, the commissioners could vote on dealing with new privacy rules as early as March. That's triggered a flurry of advocacy this month from industry and privacy advocates anticipating a Notice of Proposed Rulemaking, which starts the process of creating new regulations. Mid-January brought a letter from 59 advocacy groups to Wheeler urging him to move forward with new rules. "In addition to the Commission's important decision last year to retain authority to protect consumer privacy on broadband telecommunications services, the FCC has worked diligently under your administration to enforce existing privacy protections for voice communication, and to require greater transparency for broadband provider service practices," the groups said. "We look forward to working with you to modernize these existing rules to clarify crucially important protections for consumers online." The commission will have to determine not only what data is covered by the rules, but also how companies should be compelled to protect it. Privacy groups hope the FCC uses its authority in ways that the Federal Trade Commission, which previously had legal authority over Internet service providers, couldn't. They argue that the FTC's privacy standard, which is based on whether a certain practice is "unfair or deceptive," isn't strong enough to police broadband providers, and that the FCC has the ability to give their rules more teeth. "They, under reclassification [of Internet providers], can explicitly make rules that say thou-shalt-this, thou-shalt-not-that," said Simpson. "And that's an entirely different situation than what the FTC does." Telecom groups disagree. In a letter this week, seven major trade associations said that the FCC should look to align its rules with the FTC's, should it choose to pursue them at all. The groups said a privacy framework based on the FTC's guidelines would "identify privacy or security goals, and afford providers, including smaller providers with limited resources, flexibility in achieving those goals." Follansbee, with USTelecom, rejected the idea that the FTC is too weak to regulate the data privacy of broadband customers. "I think that the FTC has a very strong approach," she said. "Things have been working, so let's move forward and have everything be harmonized so consumers know what to expect." Critics also say that new regulations governing service providers could confuse consumers who would see broadband companies held to one set of rules and web services, like the sites they visit online, to another. Public interest advocates dismiss the idea that consumers may be confused by rules that apply to their Internet provider but not the websites they visit. "I think there's a sense that we can do better on privacy protection," said Matt Wood, policy director at Free Press. "And the FCC has some tools to do that the FTC may not. "I guess in the end, I'm much less concerned about allegedly duplicative or different rules applying to different providers than I am about getting it right for the user and making sure there actually is protection for them," he added. (February 15, 2016) thehill.com

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▼ WHOLESALE NEWS

Bell adds its voice to Rogers dispute with discount wireless startup Sugar Mobile

BCE Inc. is weighing in on Rogers Communications Inc.'s dispute with upstart discount wireless provider Sugar Mobile, which is using a combination of WiFi access and cellular roaming to support its business model. The regulatory tangle revolves around Rogers' roaming agreement with Sugar's sister company Ice Wireless and Sugar's attempt to leverage that agreement to offer its own customers cellular access when WiFi coverage is not available. BCE filed an intervention Thursday arguing against Ice Wireless's request that the Canadian Radio-television and Telecommunications Commission (CRTC) grant it an interim order blocking Rogers from terminating that roaming agreement. BCE said it has an interest in the matter and in clarifying the regulatory framework because the outcome "will almost certainly have an impact" on its own roaming services. Although Ice operates its wireless network in the northern territories, Sugar is marketing its $19-per-month product (which requires customers to bring their own unlocked mobile device) across the country and offering users phone numbers with local area codes.

Rogers told Ice Wireless on Feb. 2 that it believes this arrangement violates the roaming agreement and said it planned to terminate its network access within 14 days (an extension of a required seven-day warning period). The companies took part in a CRTC-assisted mediation before Ice Wireless filed a formal complaint with the commission this week. Ice Wireless argues that a CRTC policy issued last May permits the arrangement it has in place. In that ruling, the commission stepped in to regulate the market for wholesale roaming services and is now in the process of setting the prices the three national carriers (BCE, Rogers and Telus Corp.) can charge smaller players such as Wind Mobile and Videotron Ltd. to buy roaming access so their customers have service when they leave their carrier's home coverage area. As part of the decision, the CRTC also stipulated the Big Three must provide wholesale roaming services "to all subscribers served by their wholesale roaming partners,

including the subscribers of any MVNOs operating on their wholesale roaming partners' networks." "MVNO" refers to a mobile virtual network operator, companies that do not own wireless airwaves or build their own cellular networks but instead purchase airtime and resell the service to their own retail customers. Sugar argues it is an MVNO of Ice Wireless and is therefore entitled to rely on the roaming agreement Ice Wireless has with Rogers. In CRTC materials filed Thursday, both Rogers and BCE raise concerns about Ice Wireless re-selling its roaming access to customers that do not reside in Ice's licensed territory and in fact may never use Ice's actual network. "These customers are clearly not roaming and have no right to use Rogers. The commission ought not to sanction this type of activity by way of interim relief," Rogers said. BCE submitted that Sugar Mobile is allowing its customers to "permanently roam" on the Rogers network and suggested that is likely prohibited by the Rogers roaming agreement. Samer Bishay – who is the president of both Sugar Mobile and Ice Wireless as well as their majority owner, Iristel Inc. – says the arrangement is within the CRTC rules because Sugar gives its customers SIM cards that are assigned to 867 area codes within Ice Wireless's operating territories. He said in a brief telephone interview Thursday evening that Iristel – which is a regulated telecom provider that operates across Canada – then assigns telephone numbers with area codes local to the Sugar Mobile customers. Those are accessed "over the top," he said, the same way a phone number assigned to a voice over Internet protocol (VoIP) account with a company such as Skype or Viber operates. Rogers and BCE also argue that there is no urgency that would warrant an interim order, pointing out that Mr. Bishay told The Globe and Mail on Tuesday that Sugar could still operate if Rogers terminated its roaming access. He said that Ice Wireless has roaming agreements with other carriers in place, but added, "it would set a precedent. Then we would have uncertainty and we wouldn't know who could potentially do the same thing." Mr. Bishay said Rogers is the only company with which Ice Wireless has a national roaming agreement. While the company does have other regional agreements in place, he said, it would leave them without service in parts of the country. "If we lose Rogers,

we lose a big chunk of the country." The Public Interest Advocacy Centre (PIAC) and the Canadian Network Operators Consortium (CNOC) also filed interventions Thursday in support of Ice Wireless's request for an interim order stopping Rogers from cutting off roaming access. CNOC lost a separate battle at the CRTC on Thursday when the commission ruled against the industry group's request to reconsider making it mandatory for carriers to offer network access to MVNOs. The commission has given Ice Wireless until Monday to file reply comments on the interim motion and has set a March 17 deadline for interventions on the overall complaint.

Three promises no price rises for 5 years following O2 merger

Three's planned acquisition of O2 recently hit a small snag, as OFCOM CEO Sharon White publically expressed her concerns that the merger could

lead to higher prices for customers. But it seems that won't be the case at all, as in response to the claim, Canning Fok, chairman of Three UK, has promised that Three and O2 will not "raise the price for consumers of a voice minute, a text or a megabyte in the 5 years following the merger. Every cost efficiency that combining the businesses achieves will be shared with our customers. Like for like, customers' bills will go down." But that's not all. He also pledged that the combined company will invest £5 billion in their UK businesses over the next 5 years. Which, he claims, "is at least 20% more than would have been invested by the two companies on their own. More

importantly, it is much more efficient spending, so quality of service in terms of capacity, coverage, reliability and data speeds will improve much more than if the two companies had not been combined." A final pledge he makes is that the combined might of the two companies will allow them to stand up to "the new Leviathan BT" and "the old top-of-the-heap predator Vodafone" and "deliver real competition, not just slogans." Those sound like big promises, but Fok seems confident of them, concluding that: "In short, over the next 5 years Three+O2's customers will be getting more and paying less than they do today for mobile services and the wholesale market will also be better off. Let me emphasize: This is not an aspiration. It is a guarantee." This of course assumes the deal goes through and that is now in the hands of the European Commission authorities, but he's certainly put forward a good argument as to why it should. Hopefully in the coming weeks we'll have a better idea of the networks' chances, so stay tuned for updates.

Mobily signs international roaming agreement with Vodafone Group

Etihad Etisalat (Mobily) has signed an international roaming agreement with Vodafone Group. As a result of this agreement, more than 21 countries around the world, where Vodafone Group has a presence, will be accessible to Mobily roaming customers. This will enable Mobily to provide its customers the widest coverage and quality international roaming experience. Such partnerships facilitate the provision of roaming

spectrum network and surrender the spectrum back to the regulator. The roaming agreement still needs to be ratified by the regulator though. The deal would primarily affect customers with older handsets that could not use AIS's existing 1800 MHz spectrum. At the moment, AIS is striving to migrate its 2G customer base over to its 3G network, having moved 1.6 million of its 12 million remaining GSM subscribers.

services, compatibility with the latest technologies and ease of usage to meet the needs of Mobily customers all around the world. Through this agreement, Mobily adds to its roaming list, a number of countries considered important international destinations, such as Germany, Italy, Spain, Turkey and Britain, among others. Ziad Hamad Al-Hasson, GM international traffic management and services in Mobily, said: "We are pleased to sign this agreement with Vodafone, the largest global telecommunications operator; this agreement is part of Mobily's strategy to make best use of international roaming partners all around the world to provide our customers widest coverage in countries that our customers routinely visit as a tourist destination; also we ensure that roaming agreements are done with reputable operators, characterized by high quality to ensure the highest coverage quality, excellent services, high-speed Internet and competitive rates for calls, messages and data usage through innovative packages. " Al-Hasson added: "Mobily's superior

customer experience is not just limited to the Kingdom, but extends to their favorite travel destinations; within the Kingdom, we continue being the exclusive operator, which offers unlimited Internet package to customers while roaming." Mobily is considered to be among the top telecom operators in the region providing the largest and widest international roaming Internet services through Fourth Generation (LTE) technology, in partnership with 124 operators representing the largest telecom operators in 56 countries around the world.

AIS Secures 2G Roaming Deal with Rival Network

Thailand's AIS says that it has secured a national roaming agreement to let its remaining GSM customers roaming onto DTAC's network. The roaming deal was required so that GSM customers are not cut-off when AIS is forced to shut-down its 900 MHz

Telecom industry's role in the framework of Global Sustainable Development Goals

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Individuals, organization and governments had agreed on a set of guidelines that would ensure prosperity for all, end poverty and protect the planet. Those guidelines are called the Sustainable Development Goals (SDG for short). Each goal is broken down to set of actions/target to be implemented/achieved by 2030. Those goals are listed below for quick reference, however, more details could be found at the UN website http://www.un.org/sustainabledevelopment/sustainable-development-goals/

The SDG philosophy gives more emphasize on companies and the private sector to add value to their business and the society where they operate, thus, the private sector will have an increasing role in achieving the set sustainability and development objectives. This role is due to the fact that private sector is crossing geographical, social, economical and political boundaries and operate in environments that are beyond the control of single government or a financial institution.

The telecommunication sector, being the most dynamic sector, is expected to have a big role in achieving the 17 SDG objective. Telecom operators may play an active role in SDG implementation through incorporating sustainability in their core activities and DNA. Number of opportunities exist to this sector to add value through:

1. The development of products and services that add to their profitability and create a responsible social impact and reaching low income subscribers.
2. Development of competent employees and improving their well bing to enhance creativity & productivity.
3. Ensure the creation of responsible supply chain with good ethics and resource efficiency.
4. Investing in renewable energy (e.g. Solar) and communications infrastructure development.

Sustainability goals does not compromise profitability goals of the private sector. Therefore, there should exist enough demand and potential for business growth. It's well understood that the growth opportunities for the telecom industry lies within the domain of developing countries and societies as compared to developed ones. The following will make it more clear:

Population growth: the population of developing countries is expected to reach 8.5 billion people by 2050 were as that of developed will remain flat at 1.3 billion.

Increased Spending: it's expected that the income of the lower 40% of the world population will grow from $3 trillion to nearly $6 trillion by 2020.

Technological development: new technology developments and deployments like 5G, FTTx, M2M, IoT, wearables, ... Etc will allow creating new business models, affordable services, different supply chains, innovative use of renewable energies and efficient utilization of spectrum.

PPP: public private partnerships is allowing more cooperation to achieve social value add.

Let's consider few SDG goals and discuss how telecommunications could have an impact.

First, considering the 3rd SDG goal, "Good health and well-being". The obvious ability of real-time delicate remote surgeries, detailed patient information access at various health/medical institutions are few know examples. However the new development and spread of connected wearable devices that avail health information of individuals anytime anywhere to their respective health centers for immediate actions/and or advice will contribute to the spread of good health and well-being. Connected wearable devices sales forecast expects an increase of from billion $20 in 2015 to billion $70 by 2025. A clear indicator of the magnitude of this application impact, expected financial and social benefits. With the development of affordable wearable devices and affordable packages from operators in developing countries a value chain maybe established in cooperation with government entities and civil organizations that will ultimately promote good health and lower death rates. Telecommunications also is playing a major role in strengthening the capacities in developing countries in particular for early warning of major health risks and spread of fatal diseases.

Second, considering 4th SDG goal, "Quality Education". Telecommunications has made it possible to access the same information at any location around the world regardless of gender, financial or social status. Partnership is a key success factor in achieving the SDG's. Partnership with ministries of education, universities and schools number of products/services maybe created to allow people in developing countries with limited access formal education to gain good education.

Third, considering 10th SDG "Reduced inequalities". Standardization and interoperability allowed the telecom industry to provide unified and common basic services to all people irrespective of their countries or geographical boundaries. With the existence of regulatory bodies as the ITU, GSMA entire value chain speaks the same language. This also emphasizes on the strong principle of partnership within this sector.

It is evident that the telecom industry could have an increasing role in the achievement of Sustainability Development Goals through good involvement and clear strategy for implementation.

We are well aware that the maturity and spread of telecom services are different at different part of the globe, for instance, we are witnessing 100% 4G penetration, 5G trials, 100%+ subscriber's penetration and challenges of Internet of Things IoT at some parts of the world. On other parts of the same world, we are below 50% of population coverage of basic voice and SMS service with not data experience.

The obvious questions, will telecommunications help achieve the SDG goals or increase the gap and the digital divide?

In Spite of variations and maturity, I believe that the telecom sector will accelerate the achievement of the SDG goals in less developed regions if businesses act more responsibly at their societies.

The industry has no choice but to put different priorities in addressing global sustainability goals per region. In my opinion, for developing regions and countries, initial focus could be in:

- Telecom Infrastructure development in least develop areas to avail peace, stability, support for development and sustainability.
- Capacity and capability development of employees, the supply and value chains emphasizing ethical business practices.
- Efficient utilization of resources through sharing and the use of renewable energy.
- Availing specialized products and services that promote spread of health and education.

Connect and Protect: How telecom operators are becoming increasingly important to financial institutions

orange™

Orange Jordan

As the financial sector – both in Jordan and worldwide – continues to grow, financial institutions that want to thrive must not only differentiate themselves in an increasingly crowded market, but they must find innovative ways to increase their operational efficiency and improve their economies of scale. And with the finance industry increasingly reliant on IT services, technological innovation and digital security, leading financial institutions are now turning to the ICT sector to mitigate costs and elevate their services. In turn, companies in the ICT sector are stepping up to the challenges of the financial industry, delivering business and security solutions that cater to the evolving needs of financial institutions.

Leading the way in providing these crucial services, Orange Group – one of the leading global telecom operators, with over 263 million customers worldwide –

has been providing an extensive range of business and enterprise solutions for nearly a decade, via its dedicated Orange Business Services (OBS) arm. With a wealth of experience and insight, OBS is a trailblazer in providing enterprise communications solutions, and was previously honored with three major awards at the 2012 World Communication Awards, the largest awards ceremony in the global telecom sector.

On a local level, Orange Jordan provides a full range of business and enterprise services through OBS Jordan, and has become a trusted partner for numerous institutions in the financial sector. With the company's well-rounded experience in the finance and insurance industries in particular, Orange Jordan is now providing its business services to most of the Kingdom's leading banks and insurance companies.

With the launch of Orange's new global Essentials 2020 strategy in 2015, Orange Jordan is now working to further elevate its business service offerings. The company's new strategy is centered on providing customers with an unmatched service experience, and one of the key drivers of this vision is to accompany the transformation of its enterprise customers. For those customers in the financial sector, this commitment is especially vital, particularly as competition increases and digital security becomes a central concern.

OBS Jordan works closely with its customers in the financial sector, listening and responding to their needs in order to develop services that address the most important issues of the day. At the top of this list, of course, is security, which is especially crucial for banks, who are more prone to cyber-attacks than businesses operating in other industries and thus require highly sophisticated security solutions.

With the most robust telecommunications infrastructure in the Kingdom, Orange is capable of providing banks in Jordan with world-class security services. Recently, OBS Jordan introduced its newest security solution to its finance and enterprise customers: DDoS Mitigation.

Distributed Denial of Service, or DDoS, attacks are increasingly becoming one of the most pressing security threats faced by companies with an online presence. DDoS attacks are designed to bring down an organization's servers, which can be especially devastating for banks and other financial institutions that rely on an uninterrupted, real-time presence on the web. Today, four out of five cyber security threats are related to DDoS, and enterprises, governments and financial institutions around the world deal with an average of 2,000 to 3,000 DDoS attacks per day. The future outlook isn't too bright, either: as the frequency, severity and complexity of these attacks increase, companies and entities will need to continually reassess their security protocols and provisions. Fortunately, Orange Jordan is always one step ahead. As part of Orange's Managed Security Services, the company's DDoS protection services provide peace of mind to financial institutions and other enterprise customers, who can rest assured that they will receive 24/7 protection against these crippling attacks. Furthermore, Orange's DDoS Mitigation service ensures that customers won't have to invest in their own expensive security platforms and on-site services.

Along with other dedicated security service offerings – such as content filtering and firewall management – Orange Jordan provides an extensive range of business services designed to enhance performance and connectivity. In terms of the company's managed services, Orange's Managed Ethernet solution provides a cost-effective way for enterprise customers to ensure the reliability and simplicity of their network. By outsourcing to Orange Business Services, banks and other financial institutions can keep their operations in harmony while focusing their own energy and attention on the core tasks of their business. Orange provides high-bandwidth Ethernet interconnection service, seamlessly linking a company's local area network (LAN) to its customer site. Likewise, with its expansive network infrastructure and capabilities, Orange can provide large and growing businesses with a wider-reaching metropolitan area network (MAN), provided via secure VPN (virtual private network) technology with high-speed bandwidth and simple hardware.

Managed Ethernet services helps businesses enhance their performance and secure traffic between sites, while still ensuring that the end user maintains control over their IP domain and over the ability to prioritize critical applications. These services also allow for local access monitoring, which lets businesses stay proactive in monitoring their network. Furthermore, with Orange's troubleshooting expertise, most issues or problems can be solved remotely.

Along with saving money and providing easy oversight for the end user, Managed Ethernet services free up the time and energy of the company's staff. Given the nature of financial sector, this is particularly important for banking operations, which require dedicating the majority of a company's time and resources to the business itself. As such, Orange Business Services help banks stay on the cutting edge of an increasingly competitive sector. With the new technologies and new challenges of the modern era, financial institutions and telecom providers must work to develop fruitful and sustainable partnerships in the long-term.
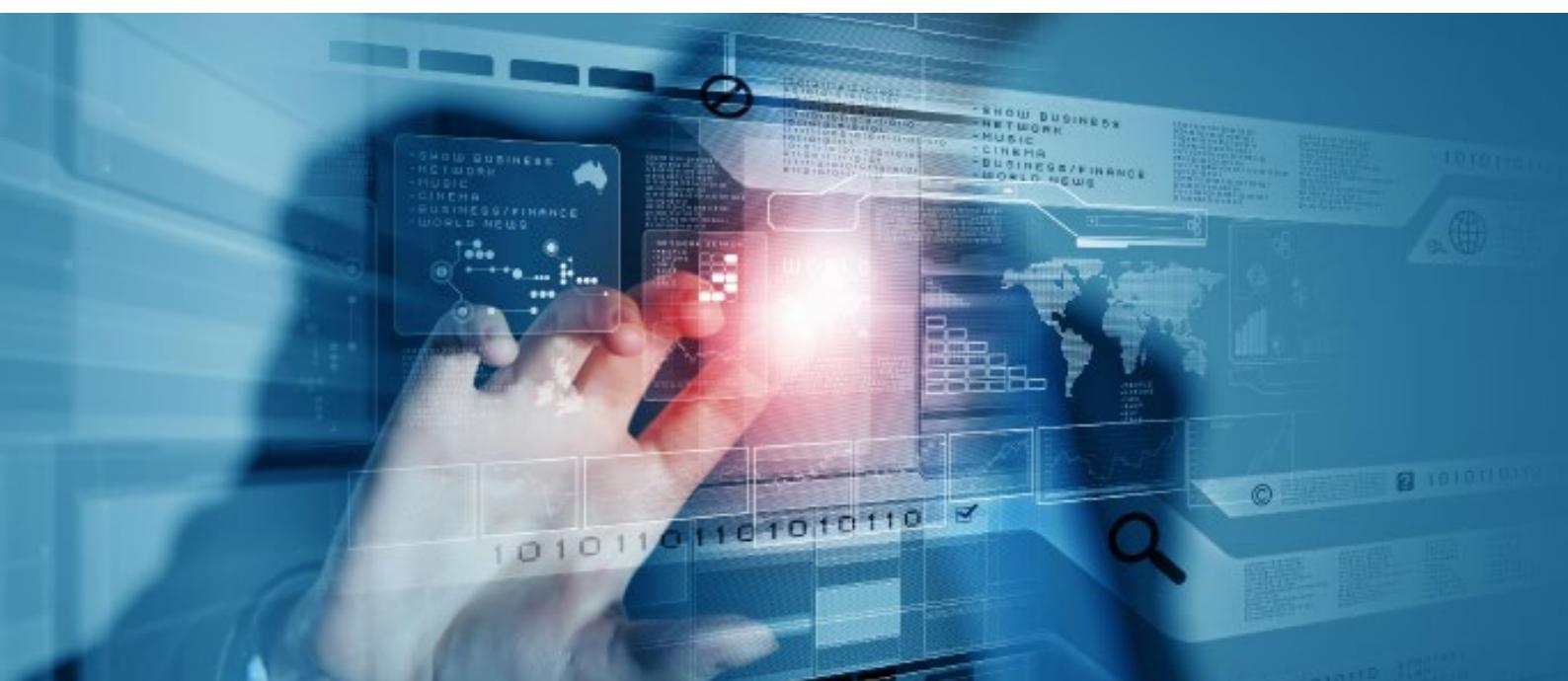
▼ TECHNOLOGY NEWS

TECHNOLOGY UPDATES

Ericsson 5G prototype hits 25 Gbps

Ericsson announced it has reached a downlink speed of 25 Gbps in a live demonstration of its 5G radio prototype. To reach the speed, the Swedish kit maker used multi-user multiple-input, multiple-output (MU-MIMO), which enables simultaneous communication between multiple transmitters and receivers. Ericsson also used massive MIMO to increase downlink throughput, and advanced beam-tracking, which maintains the connection as the device moves through the cell site. Ericsson did not disclose which frequency band or bands it used, or how much spectrum, only that it was millimeter wave (mmWave) spectrum, which is found in the EHF band, which ranges from 30 GHz-300 GHz. "The multi-Gbps speeds delivered by the Ericsson 5G radio prototypes can not only support growing mobile broadband and video demand on smartphones and other mobile devices, they also provide a viable and cost effective alternative to residential fiber connections," Ericsson said, in a statement. "5G will also impact the Internet of Things (IoT), enabling new applications for smart vehicles and transport architecture, remote control of heavy machinery in hazardous environments, remote surgery and new

levels of human-IoT interaction including immersive augmented reality and immersive gaming." The demonstration took place at Ericsson's lab in Sweden, and was witnessed by two of its 5G partners, Japan's NTT DoCoMo and South Korea's KT Corp. "Through our work with Ericsson, KT is on track to preview the innovative new 5G services at the PyeongChang 2018 Olympics. We appreciate that Ericsson is enabling us to trial 5G capabilities with the advanced features, like beam tracking, MU-MIMO and massive MIMO, that we will need as we plan for 5G commercialization," said Dongmyun Lee, CTO of KT Corp. "We are very pleased that Ericsson 5G radio prototypes have enabled this great achievement through the 5G technical collaboration between Ericsson and DoCoMo, which has been going on for years. Both companies are already conducting joint outdoor trials to understand how 5G will really perform in the field," added NTT DoCoMo CTO Seizo Onoe. "This will enable us to plan for the new and enhanced services that we will be able to offer with 5G. We will be in a good position to highlight our commercial 5G capabilities in 2020."

4.5G 'necessary' on road to 5G - Huawei

Huawei is sticking by its insistence that an interim step will be required on the road to the fifth generation of mobile services. The Chinese vendor this week predicted that more than 60 commercial 4.5G networks will be deployed worldwide during the course of this year, adding that 2016 will be the start of a "golden five-year period" for the technology. "4.5G is the natural evolution of 4G and necessary transition to the 5G," said Ryan Ding, Huawei's president of products and solutions, at a press conference in Beijing, according to a statement from the company. "It can effectively protect operators' investments and enable them to provide faster services and better user experience on the basis of existing infrastructures," he added. Huawei unveiled its vision for 4.5G just over a year ago, explaining that the technology will allow for speeds of up to 1 Gbps over mobile and latency of less than 10 milliseconds. While LTE, or 4G, is essentially designed for smartphones, 4.5G will better serve the Internet of Things space, supporting up to 100,000 connections per cell, the vendor said. The concept of 4.5G has generated a mixed reaction from industry stakeholders in the intervening months, with some dismissing it as little more than a way for vendors to sell more equipment, while others have backed the idea of a stepping stone to 5G. Huawei itself says 20 operators worldwide have demonstrated or tested its 4.5G solution since it first presented the the concept in late 2014. "In 2016, which marks the beginning of the global large-scale commercialization of 4.5G, Huawei remains committed to helping global operators tap into and create new business opportunities and broaden the market potential," said Ding.

Qualcomm Announces New Snapdragon Wear Platform

Qualcomm has shown off its Snapdragon Wear, a new platform for wearable devices, and the Snapdragon Wear 2100 system on chip (SoC), the first in a new product family designed for wearable electronics. "Qualcomm Technologies is a technology leader in the wearables space with its breadth of product offerings including the Snapdragon 400 processor, which powers the vast majority of current Android Wear smartwatches," said Raj Talluri, senior vice president, product management, Qualcomm Technologies, Inc. "With the introduction of the Snapdragon Wear platform and Snapdragon Wear 2100 SoC, Qualcomm Technologies is well-positioned to extend its progress in wearables technology by enabling sleek designs, long battery life, smart sensing, and always- connected experiences in the next generation of wearable devices." The Snapdragon Wear platform consists of a full suite of silicon, software, support tools, and reference designs to allow mobile, fashion, and sports customers to bring a diverse range of full-featured wearables to customers quickly. Qualcomm Technologies' Snapdragon processors already power the majority of Android Wear smartwatches. Earlier this year, Qualcomm Technologies announced that its technologies are used in 65 wearable devices across 30 countries with 50 more expected to launch later this year.

NEC Launches New Millimeter Wave Radio for 5G Backhauling

NEC has announced the launch of the new iPASOLINK EX, an ultra compact radio communication system that achieves wireless transmission capacity of 10Gbps. The new product, adopting E-band range (71-86GHz frequency) millimeter radio waves, achieves low latency and high transmission capacity of 10Gbps with a single band, more than three-times higher than NEC's existing model. In addition, when combined with NEC's "multi-band utilization solution," the new product can deliver further increased transmission capacity by transmitting data over both E-band and other frequency bands. The new product's Adaptive Modulation and Bandwidth Radio (AMBR) enable dynamic adjustment of its modulation method and communication bandwidth according to the particular application, weather conditions and communication distance. The new iPASOLINK EX is approximately 30% smaller than the existing model, and is equipped with 10Gbps Ethernet interfaces, allowing it to efficiently transmit data via optical fiber to mobile core networks. "In the upcoming 5G world, mobile services and applications are expected to become more sophisticated and diverse. This will require mobile networks to efficiently handle larger capacity traffic than ever before. The new product meets these demands, and enables mobile operators to deliver higher quality network services and an enhanced user experience," said Yuzo Kurokami, Assistant General Manager, Mobile Wireless Solutions Division, NEC Corporation.

Turning Smartphones into Earthquake Sensors

Deutsche Telekom and the University of California, Berkeley, jointly push forward early earthquake warning. Developed by UC Berkeley and the Telekom Innovation Laboratories in Silicon Valley, the MyShake application taps into a smartphone's ability to record ground shaking from an earthquake, with the goal of creating a worldwide seismic detection network that could eventually warn users of impending jolts from nearby quakes. Especially for many earthquake-prone developing countries such as Nepal or Peru, MyShake could warn potentially affected persons valuable seconds earlier and, ideally, safe lives. These countries currently have either only a sparse ground-based seismic network or early warning system, or none at all - but do have millions of smartphone users. Deutsche Telekom presents MyShake at the Mobile World Congress in Barcelona from February 22-25. The free Android app is available to the public as of now from the Google Playstore. An iPhone app is also planned. MyShake is based on an algorithm developed by UC Berkeley seismologists. Programmers of the Silicon Valley Innovation Center, which is part of the Deutsche Telekom T-Labs, turned it into an app. For now, the app only collects information from the smartphone's built-in accelerometers, analyzes it and, if it corresponds to the vibrational profile of a quake, relays the time and amplitude of the shaking as well as the phone's GPS coordinates to the Berkeley Seismological Laboratory for analysis. Cloud-based software constantly reviews all incoming data and, if at least four phones detect shaking and this represents more than 60 percent of all phones within a 10-kilometer radius of the epicenter,

the program confirms an earthquake. The researchers cross-check this with the California Integrated Seismic Network, which monitors earth movement all over the state using underground seismometers. The app continually records accelerometer data, and after a confirmed earthquake will also send five minutes of data to the researchers, starting one minute before the quake and ending four minutes after. This happens only when the phone is plugged in and connected to a WiFi network, however. While constantly improving in sensitivity for the benefit of gamers, smartphone accelerometers are, however, far less sensitive than in-ground seismometers. But they are sensitive enough to record earthquakes above a magnitude 5 - the ones that do damage - within 10 kilometers. And what these accelerometers lack in sensitivity, they make up for in their omnipresence: There are an estimated 16 million smartphones in California, and 1 billion smartphones worldwide. Once enough people are using it and the bugs fixed, UC Berkeley seismologists plan to warn people miles from ground zero that shaking is rumbling their way. The scientists anticipate an updated app that provides such warnings within a year. MyShake runs in the background with little power, allowing the phone's onboard accelerometers to record local shaking at any time of the day or night without constricting the user.

Japanese team test 100Gbps wireless broadband at 275GHz-305GHz

A team of Japanese scientists from Hiroshima University, Panasonic Corporation and the National Institute of Information and Communications Technology have successfully trialed 100Gbps wireless broadband connectivity via a new cellular management operation system (CMOS) transmitter operating in the 'sub millimeter terahertz frequency range'. The team claim that the use of CMOS in the 275GHz-305GHz range has allowed them to develop ultra-high speed broadband over multiple channels to deliver faster transmissions than current 5GHz wireless networks, or even the 60GHz range used by high speed LAN standards such as WiGig. The Register quotes Hiroshima

University professor Minoru Fujishima as saying: 'Today, we usually talk about wireless data rates in megabits per second or gigabits per second. But I foresee we'll soon be talking about terabits per second,' adding, 'that's what terahertz wireless technology offers. Such extreme speeds are currently confined in optical fibers.' That being said, the 300GHz band is currently the exclusive preserve of researchers, and Japan's regulators do not plan discussing the allocation of frequencies in this range until 2019 at the earliest.

New Thin Film Transistor May Lead to Flexible Devices

An engineering research team at the University of Alberta has invented a new transistor that could revolutionize thin film electronic devices. Their findings, published in the prestigious science journal Nature Communications, could open the door to the development of flexible electronic devices with applications as wide-ranging as display technology to medical imaging and renewable energy production. The team was exploring new uses for thin film transistors (TFT), which are most commonly found in low-power, low-frequency devices like the display screen you're reading from now. Efforts by researchers and the consumer electronics industry to improve the performance of the transistors have been slowed by the challenges of developing new materials or slowly improving existing ones for use in traditional thin film transistor architecture, known technically as the metal oxide semiconductor field effect transistor (MOSFET). But the U of A electrical engineering team did a run-around on the problem. Instead of developing new materials, the researchers improved performance by designing a new transistor architecture that takes advantage of a bipolar action. In other words, instead of using one type of charge carrier, as most thin film transistors do, it uses electrons and the absence of electrons (referred to as "holes") to contribute to electrical output. Their first breakthrough was forming an 'inversion' hole layer in a 'wide-bandgap' semiconductor, which has been a great challenge in the solid-state electronics field. Once this was achieved, "we were able to construct a unique combination of semiconductor

and insulating layers that allowed us to inject "holes" at the MOS interface," said Gem Shoute, a PhD student in the Department of Electrical and Computer Engineering who is lead author on the article. Adding holes at the interface increased the chances of an electron "tunneling" across a dielectric barrier. Through this phenomenon, a type of quantum tunneling, "we were finally able to achieve a transistor that behaves like a bipolar transistor." "It's actually the best performing [TFT] device of its kind--ever," said materials engineering Professor Ken Cadien, a co-author on the paper. "This kind of device is normally limited by the non-crystalline nature of the material that they are made of" The dimension of the device itself can be scaled with ease in order to improve performance and keep up with the need of miniaturization, an advantage that modern TFTs lack. The transistor has power-handling capabilities at least 10 times greater than commercially produced thin film transistors.Electrical engineering professor Doug Barlage, who is Shoute's PhD supervisor and one of the paper's lead authors, says his group was determined to try new approaches and break new ground. He says the team knew it could produce a high-power thin film transistor--it was just a matter of finding out how. "Our goal was to make a thin film transistor with the highest power handling and switching speed possible. Not many people want to look into that, but the raw properties of the film indicated dramatic performance increase was within reach," he said. "The high quality sub 30 nanometer (a human hair is 50 nanometers wide) layers of materials produced by Professor Cadien's group enabled us to successfully try these difficult concepts" In the end, the team took advantage of the very phenomena other researchers considered roadblocks. "Usually tunneling current is considered a bad thing in MOSFETs and it contributes to unnecessary loss of power, which manifests as heat," explained Shoute. "What we've done is build a transistor that considers tunneling current a benefit." The team has filed a provisional patent on the transistor. Shoute says the next step is to put the transistor to work "in a fully flexible medium and apply these devices to areas like biomedical imaging, or renewable energy."

BT tests G.fast for copper-based backhaul

BT claimed a world first by successfully using G.fast to operate a cloud RAN (C-RAN) over copper lines. C-RAN is designed to improve the performance and lower the cost of operating mobile networks by vitalizing and centralizing a cell tower's baseband unit (BBU) and connecting it to the tower's transmitters via a dedicated fiber link. However, BT said on Tuesday that researchers at its Adastral Park R&D centre used G.fast – a technology that uses a broader frequency range to increase the peak speed of copper-based broadband access services to up to 1 Gbps, albeit over short distances – to do the same job as a fiber link. Removing the need for a dedicated fiber connection has the potential to significantly lower the cost of C-RAN deployment for operators, BT said. "These technologies will play a key role in 4G networks and will be fundamental to 5G architectures. The trials are another step towards a fixed and mobile network which will support customers' increasing demands for data," said Tim Whitley, managing director for research and innovation at BT, in a statement. The test, carried out with U.S. chip maker Cavium, delivered cellular data over copper lines at speeds of 150 Mbps-200 Mbps. "Our successful testing has laid the groundwork for enabling LTE deployments today and 5G deployments in the future using G.fast," said Raj Singh, general manager of Cavium's wireless broadband group.

World's First LTE Licensed-Assisted Access Over-the-air Trial

Deutsche Telekom and Qualcomm have carried out a trial involving the aggregation of licensed and unlicensed spectrum bands, to test LTE Licensed Assisted Access' (LAA) ability to extend coverage and increase network capacity. LAA extends the benefits of 4G LTE Advanced to unlicensed spectrum bands, and is one of the new features of LTE Advanced Pro standards being developed in 3GPP Release 13, which is expected to be ready in the first half of 2016. The aggregation of licensed and unlicensed spectrum is another step in the evolution of 4G LTE towards development of a unified 5G platform, envisioned to offer native support for aggregation of unlicensed spectrum right from the start. The over-the-air trial was completed on November 20th, 2015, in Nuremberg,

Germany after a three-week period of extensive measurement campaigns. The trial used LAA test equipment designed and deployed by Qualcomm Research. Deutsche Telekom provided the licensed spectrum for the LTE anchor carrier augmented with 5 GHz unlicensed spectrum and used on a multiple node LAA test network deployed over Qualcomm's Nuremberg campus. The team measured and demonstrated LAA's extended coverage and increased network capacity in utilizing unlicensed spectrum compared to Wi-Fi, as well as smooth and opportunistic aggregation of unlicensed spectrum during drive tests which also included seamless inter-eNB handovers. The fair coexistence between LAA and Wi-Fi in unlicensed 5 GHz bands was also demonstrated under different radio interference conditions and for a varied number of interfering nodes. The LAA test equipment complies with current 3GPP Release 13 development and is particularly designed to meet global unlicensed band regulations, including "Listen-Before-Talk" features using Clear Channel Assessment Procedures and channel occupancy limits required in regions such as Europe and Japan. Fair spectrum usage between LAA links and Wi-Fi links was maintained for all coexistence test scenarios during the trial.

Chip Could Bring Deep Learning to Mobile Devices

In recent years, some of the most exciting advances in artificial intelligence have come courtesy of convolutional neural networks, large virtual networks of simple information processing units, which are loosely modeled on the anatomy of the human brain. Neural networks are typically implemented using graphics processing units (GPUs), special-purpose graphics chips found in all computing devices with screens. A mobile GPU, of the type found in a cell phone, might have almost 200 cores, or processing units, making it well suited to simulating a network of distributed processors. At the International Solid State Circuits Conference in San Francisco this week, MIT researchers presented a new chip designed specifically to implement neural networks. It is 10 times as efficient as a mobile GPU, so it could

enable mobile devices to run powerful artificial-intelligence algorithms locally, rather than uploading data to the Internet for processing. Neural nets were widely studied in the early days of artificial-intelligence research, but by the 1970s, they'd fallen out of favor. In the past decade, however, they've enjoyed a revival, under the name "deep learning." "Deep learning is useful for many applications, such as object recognition, speech, face detection," says Vivienne Sze, an assistant professor of electrical engineering at MIT whose group developed the new chip. "Right now, the networks are pretty complex and are mostly run on high-power GPUs. You can imagine that if you can bring that functionality to your cell phone or embedded devices, you could still operate even if you don't have a Wi-Fi connection. You might also want to process locally for privacy reasons. Processing it on your phone also avoids any transmission latency, so that you can react much faster for certain applications." The new chip, which the researchers dubbed "Eyeriss," could also help usher in the "Internet of things" -- the idea that vehicles, appliances, civil-engineering structures, manufacturing equipment, and even livestock would have sensors that report information directly to networked servers, aiding with maintenance and task coordination. With powerful artificial-intelligence algorithms on board, networked devices could make important decisions locally, entrusting only their conclusions, rather than raw personal data, to the Internet. And, of course, onboard neural networks would be useful to battery-powered autonomous robots.

Division of labor

A neural network is typically organized into layers, and each layer contains a large number of processing nodes. Data come in and are divided up among the nodes in the bottom layer. Each node manipulates the data it receives and passes the results on to nodes in the next layer, which manipulate the data they receive and pass on the results, and so on. The output of the final layer yields the solution to some computational problem. In a convolutional neural net, many nodes in each layer process the same data in different ways. The networks can thus swell to enormous proportions. Although

they outperform more conventional algorithms on many visual-processing tasks, they require much greater computational resources. The particular manipulations performed by each node in a neural net are the result of a training process, in which the network tries to find correlations between raw data and labels applied to it by human annotators. With a chip like the one developed by the MIT researchers, a trained network could simply be exported to a mobile device. This application imposes design constraints on the researchers. On one hand, the way to lower the chip's power consumption and increase its efficiency is to make each processing unit as simple as possible; on the other hand, the chip has to be flexible enough to implement different types of networks tailored to different tasks. Sze and her colleagues -- Yu-Hsin Chen, a graduate student in electrical engineering and computer science and first author on the conference paper; Joel Emer, a professor of the practice in MIT's Department of Electrical Engineering and Computer Science, and a senior distinguished research scientist at the chip manufacturer NVidia, and, with Sze, one of the project's two principal investigators; and Tushar Krishna, who was a postdoc with the Singapore-MIT Alliance for Research and Technology when the work was done and is now an assistant professor of computer and electrical engineering at Georgia Tech -- settled on a chip with 168 cores, roughly as many as a mobile GPU has.

Act locally

The key to Eyeriss's efficiency is to minimize the frequency with which cores need to exchange data with distant memory banks, an operation that consumes a good deal of time and energy. Whereas many of the cores in a GPU share a single, large memory bank, each of the Eyeriss cores has its own memory. Moreover, the chip has a circuit that compresses data before sending it to individual cores. Each core is also able to communicate directly with its immediate neighbors, so that if they need to share data, they don't have to route it through main memory. This is essential in a convolutional neural network, in which so many nodes are processing the same data. The final key to the chip's efficiency is special-purpose circuitry that allocates tasks across cores. In its local memory, a core needs to

store not only the data manipulated by the nodes it's simulating but data describing the nodes themselves. The allocation circuit can be reconfigured for different types of networks, automatically distributing both types of data across cores in a way that maximizes the amount of work that each of them can do before fetching more data from main memory. At the conference, the MIT researchers used Eyeriss to implement a neural network that performs an image-recognition task, the first time that a state-of-the-art neural network has been demonstrated on a custom chip.

Ericsson Opens 20,000 Square Meter Global ICT Center in Sweden

Ericsson has officially inaugurated its Global Information and Communication Technology (ICT) Center in Rosersberg, Sweden. The center also represents an important step in the company's ongoing ICT transformation. The Rosersberg site, which covers 20,000 square meters, is the first purpose-built Ericsson Global ICT Center to be inaugurated in Sweden. It follows the opening of the Global ICT Center in Linköping, Sweden in September 2014, which was built adjacent to an existing Ericsson facility. In addition to the two facilities in Sweden, Ericsson will open a Global ICT Center in Montreal, Canada in the second quarter of 2016. The Global ICT Centers allow Ericsson to emulate an operator's mobile network and to test new solutions as if they were running on a live network. In the near future, Ericsson's customers will be able to connect remotely for interoperability testing, trials, early access and innovation on new offerings from any location. These services will be provided through ten Business-Near Centers, to be announced in 2016, which are connected to the Global ICT Centers. The Global ICT Centers are set to be powered by Ericsson's cloud solutions and will host a substantial part of the company's product portfolio. Currently, the company's test environments are spread across more than 50 locations worldwide. Ericsson estimates, when all three Global ICT Centers are in operation, it will result in a 40% reduction in energy usage compared to 2012 test lab energy baseline. Anders Lindblad, Head of Business Unit Cloud and

IP, Ericsson, says: "Through today's inauguration of our second Global ICT Center, Ericsson's vision of a Networked Society moves closer. By streamlining R&D through our cloud-powered Global ICT Centers, we will enable new services and innovations that will create benefits for people, business and society."

FCC approves LTE-U tests

Qualcomm given permission to evaluate performance of spectrum-sharing technology; WiFi Alliance to submit coexistence plan. The U.S. Federal Communications Commission (FCC) late last week gave Qualcomm permission to test LTE-Unlicensed (LTE-U). The decision paves the way for the mobile chip maker to evaluate the technology's performance using six Verizon base stations in three locations: Oklahoma City, and Cary and Raleigh, both in North Carolina. "The success of the unlicensed bands as laboratories of innovation is largely the result of industry-driven coordination and, while significant steps remain before LTE-U can be considered for commercial deployment, we believe that this development is an encouraging step in continuing that success," said Julius Knapp, chief of the FCC's office of engineering and technology (OET), in a blog post on Friday. LTE-U is a means of supplementing mobile capacity for cellular communications by using unlicensed spectrum. The 5-GHz band, which is used for WiFi, is proving a popular choice for LTE-U, causing concern about interference for the WiFi industry, as well as a group of senators. "The WiFi Alliance, working together with advocates of LTE-U, is developing a test plan to evaluate the coexistence of LTE-U with WiFi and other devices operating in the unlicensed spectrum. A draft of the plan is expected to be released early next month," said Knapp. Qualcomm and Verizon have also agreed to participate in both real-world and lab-based coexistence testing, he added. Knapp said the regulator will continue to monitor discussions about spectrum sharing. "We are pleased with the progress thus far and encourage the continued cooperation of all of the stakeholders," he said.

Philippines is One of

Only 2 Countries to Have Unused 700MHz Frequency

The Philippines has yet again made a record for itself, this time belonging to a list of countries in the world that has not used its 700 MHz spectrum frequency. And this time the list is very short, only 2 countries in fact made it to this list Philippines and Thailand both in the ASEAN region. If this new technology was opened up globally to reduce the cost of broadband in many countries, the question many people are asking is why we have not used this asset for the benefit of Filipino consumers and citizens. According to data gathered by the GSMA, there remain only 2 countries in the Asia Pacific with major issues preventing their allocation of the 700 MHz band to mobile broadband technologies. This is contrary to the move by most countries to adopt the Asia Pacific technical harmonization or APT700 band plan, which is the most efficient arrangement of the 700 MHz band for mobile communications services. The GSMA reported that except for the Philippines and Thailand, all other countries in the region including the likes of Afghanistan and Bangladesh, have either adopted the APT Band Plan or have progressed towards adoption. On the other hand, countries in Europe, the US and other developed nations have progressively rolled out their strategies using the 700 MHz. The group encourages countries to harmonize their frequencies as quickly as possible in order to take advantage of significant socio-economic benefits of allocating the 700 MHz band to mobile - including growth in GDP, employment, entrepreneurship and tax revenues. GSMA estimates that by 2020, the digital dividend for the Asia-Pacific region could be worth almost US$1 trillion in additional GDP. Delaying the decision to allocate the 700 MHz band would have an impact on the total socio-economic benefits of the technology. For instance, delaying the harmonization could lead to loss of employment opportunities and tax revenues for the government as well as loss of new business activities, the group said. The group added that the 700 MHz Digital Dividend (DD) band is key for expanding mobile broadband into the outlying islands and rural provinces in the Philippines, enabling mobile operators to reduce capital and network costs, thereby accelerating rollout and lowering prices for end users. The 700 MHz band is the digital dividend for mobile broadband identified by the International Telecommunication Union (ITU) at the World Radiocommunication Conference (WRC-15) last November. The ITU believes that using the 694-790 MHz frequency for mobile broadband will go a long way in bridging the digital divide globally, and will benefit handsets, supply chain, roaming, rural coverage, and other aspects of mobile communications. It will also pave the way for manufacturers and mobile operators to offer mobile broadband at affordable prices in currently underserved areas or so-called missionary areas. Particular to the Philippines, the National Telecommunications Commission (NTC) has not announced any timetable or plan to release the 700 MHz band to mobile operators, leaving the future of the band unclear. Both the Philippine Long Distance Telephone Co. (PLDT) and Globe Telecom have asked the NTC for an equitable distribution of the 700 MHz spectrum, with PLDT even threatening legal action and elevation of the matter to President Aquino should the regulator fail to act on its request. Globe General Legal Counsel Atty. Froilan Castelo, said that giving active and operating telecommunications companies access to the 700 MHz spectrum will immediately release its socio-economic benefits especially insofar as consumer pricing is concerned. "Harmonizing the 700 MHz spectrum will allow the industry to provide broadband and data services at faster speeds and in a more cost-efficient manner. This will ultimately redound to increased benefits for the consumers," said Castelo. "The 700 MHz spectrum is imbued with public interest because all over the world this scarce frequency has been reclassified for mobile telecommunication use from broadcast use," said PLDT Regulatory Affairs and Policy Head Ray Espinosa. He added that the 700 MHz remains assigned for broadcast use to date and the entire spectrum is in the hands of and controlled by a currently inactive broadband operator.

How Zain and the ICT sector can contribute to the achievement of the Sustainable Development Goals

Jennifer Suleiman
Head of Corporate Sustainability & Social Responsibility
Zain Group

The globally renowned economist Jeffrey Sachs once famously remarked that "the cell phone is the single most transformative technology for development." It is indeed the case that the telecommunications industry – and the information and communications technology sector (ICT) in general – has become intrinsically linked to the global community's goal of achieving holistic and comprehensive sustainable development. The emergence of ICT in recent history – including the mobile phone, the internet and an array of associated technological solutions – has transformed and accelerated the development agenda. Now, with more than half of the global population having access to mobile phones and just under half connected to the internet, it is important that we examine the unique role that telecoms and ICT play in achieving the sustainable development objectives.

In 2015, Zain formally announced its support of the United Nations Post-2015 Sustainable Development Goals (SDGs), an important decision that is directly aligned with our corporate sustainability agenda. The SDGs were developed by a variety of different stakeholders from across the public and private sector with the goal of setting a pathway for achieving sustainable development over the next 15 years. For Zain, working towards the SDGs is a pursuit that is directly tied to our organizational success, which we believe is dependent to a large extent upon the socioeconomic wellbeing of our operating markets. Supporting the SDGs means we would seek alignment of our business activities with the achievement of the Global Goals, leverage our communications channels – particularly social media – to raise awareness among the public, and work to ensure the majority of our corporate sustainability and social responsibility (CSSR) initiatives contribute to their achievement. But I believe it is through effectively fulfilling our core business objectives that we can have the most significant contributions to the SDGs. Offering high quality and

affordable connectivity as well as ICT solutions that meet societal needs is what will ultimately drive sustainable development in our operating markets and the region as a whole.

Addressing Poverty through ICT

Mobile connectivity is a catalyst for sustainable, inclusive economic growth and poverty alleviation. As we continue to reduce the digital divide by targeting low-income segments, we are consequently providing socioeconomic empowerment to those at the bottom of the pyramid. By leveraging the use of ICT, we can also make great strides in universalizing access to essential services in areas such as banking, education and health. Greater financial inclusion is a key prerequisite for sustainable development. Additionally, by offering e-Health solutions, telecoms can contribute to the dissemination of critical health information such as maternal health advice and can even remotely connect patients with doctors via real-time communication. e-Learning tools can similarly offer those that lack access to traditional bricks-and-mortar schools with opportunities to learn and develop.

The socioeconomic impacts of connectivity can potentially be tremendous, given the multiplier effect that it has on society. For example, rural farmers that receive basic connectivity can access vital up-to-date market information, which in turn reduces price dispersion. This improves overall market efficiency and ultimately benefits consumers with lower prices. Connectivity also provides populations with opportunities to access and share vital information. Our collaboration with Ericsson in 2008 to launch the Lake Victoria initiative and provide mobile weather updates to around 200,000 fisherman resulted in invaluable contributions to the safety and efficiency of those who depended on the lake for their livelihoods, but had to contend with often unpredictable weather patterns. The initiative further provided local fishermen with the market prices and demand for specific catches thus enabling them to be more efficient while at the same time reducing waste of fish that has no market demand.

Stimulating Sustainable Growth through Innovation and Entrepreneurship

Fostering a knowledge-based economy is recognized by many including myself as the ideal model for enabling sustainable growth in society. The foundations for this economic model rest upon the capability to stimulate innovation, knowledge creation and entrepreneurship; as these activities enable populations to compete globally and progress holistically. High quality ICT plays an invaluable role in enabling this transition, as it empowers local businesses for an unprecedented level of collaboration to take place. Additionally, crowdfunding solutions that rely on ICT effectively democratize the entrepreneurial process, making opportunities accessible to a much larger section of the population. Our 2016 Thought Leadership Report entitled, "Bringing the Future Closer with Innovation: Pursuing Innovation as a Means to Overcome Challenges in the MENA Region" offers insights into the instrumental role of ICT to stimulate innovation in the MENA region, and highlights the success that Zain has achieved in this regard.

Telecoms and Environmental Performance

In order to effectively address the SDGs it is essential that the global community tackles the issue of climate change. ICT provides significant opportunities to achieve this target, particularly within urban settings, through the implementation of smart city technology. Solutions that improve efficiency in the transportation sector can lead to substantial improvements in emissions reduction. Similarly, smart metering – which we have begun to roll out across our base stations – creates important opportunities to improve the energy efficiency of critical infrastructure. Deploying such solutions will gradually improve resource usage and distribution, and telecoms have a significant role to play in driving the implementation of this technology.

The SDGs were developed collaboratively by a group of stakeholders from different geographies, governments, UN bodies and industries in order to outline a path for the global community to achieve shared prosperity. Leaders in the ICT sector such as Zain have a critical role to play in driving the collective attainment of the SDGs. Through effective action and leadership from within the public and private sectors we can hope to make incremental strides towards its eventual achievement. I am confident that by fulfilling our mission of offering high quality mobile connectivity and ICT solutions, we at Zain are positioning ourselves as important contributors to the realization of the SDGs in our operating markets.

On the cusp of change: Customer engagement crucial to CSP digital transformation success

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Executive summary

The Internet era has triggered a massive shift in the telecoms industry resulting in strong competition, declining voice revenues and dramatic growth of data consumption. Communications service providers (CSPs) worldwide are actively exploring ways to defend against the competitive threats of digital economy players, while capitalising on their strengths and network infrastructure to become a more integrated part of the digital economy and the associated growth opportunity.

Meanwhile the Internet era has also triggered significant change in customer behaviour and expectations. Customers have become accustomed to seamless user experience and real-time control of their services and expect nothing less from their service providers. CSPs are pressured to improve their user experience while also navigating the complexities of interlinking their legacy platforms to provide a consistent interface. Establishing an effective customer engagement model in the midst of the evolving digital economy landscape is critical for CSPs to ensure they are not bypassed in the value chain. This thought leadership white paper focuses on the significance of exceptional customer engagement and provides a brief overview of how CSPs could innovate on customer engagement and experience.

Introduction

The advent of the Internet era has had a unique and profound impact on businesses worldwide. Businesses that provide online digital services, digital substitutes for traditional goods and services, or physical goods marketed and sold by digital means are compelled to participate in the digital economy or risk significant disruption.

The move to the digital economy has also had a significant impact on communications service providers (CSPs). IP-based over-the-top (OTT) service providers of all sizes – from

Internet giants to small, agile start-ups – have disrupted CSPs' traditional voice and messaging revenues. CSPs have retained some inherent advantages such as existing customer relationships and network infrastructure that give them invaluable leverage to become an indispensable part of the digital economy world order. In order to do this, however, CSPs need to undergo a digital transformation and make significant changes to how they engage with their customers.

The rise of Internet giants such as Amazon and Google has caused notable changes to customer behaviour and expectations. Customers expect real-time, personalised, customisable experiences for both digital and non-digitised services. For instance, consider recent digital economy companies such as Airbnb, Instacart and Uber who have tasted huge success. Airbnb offers rooms, Instacart delivers groceries and Uber hails taxis. None of these services are digitised – what sets these companies apart is their exceptional customer engagement model. In short, by implementing a great customer interface between the services and the customer, these companies have significantly disrupted their industry.

As CSPs engage in actively defending against the competitive threats of digital economy players, they would do well to give heed to the most common disruption model: providing an exceptional customer experience that brings together disparate complex services.

Mapping the customer journey

The first step towards creating an exceptional customer experience is to map the customer journey. This is especially true for CSPs, who typically provide a number of services, including complex bundles. The significant rise in the number and types of available services creates both opportunities and challenges for CSPs worldwide.

CSPs are at the threshold of offering a large variety of new digital economy services such as home networking and security, cloud-based software subscription services, machine-to-machine communications, and many more. Under these circumstances, the need to predict and be prepared for the customer interaction journey could not be more relevant.

Consumers want control over their customer journey, choosing their own paths with complete flexibility. There is a need to provide multiple journey paths that customers can take as they become aware of an offering from a CSP, research the offering, choose an offering, and (hopefully) become public advocates of the offering. Today, most CSPs' primary channels are websites and customer care agents while some also provide smartphone and tablet apps, and kiosks and retail stores. Other channels such as Facebook, Twitter and other social media tools are also becoming important.

The platforms of the future will allow customers to choose how they interact with CSPs while guiding the customer journey subtly to ensure appropriate engagement and desired outcomes for CSPs. Broadly speaking, a typical customer journey can have infinite outcomes or limited guided outcomes.

- Infinite outcomes: The infinite outcomes customer journey approach provides an infinitely flexible set of paths for customers to follow as they interact with the CSPs, their agents and their partners through omni-channel architecture. Designing an infinite number of potential customer journeys is complex, and effective customer engagement within this model can be time-consuming and expensive.
- Guided outcomes: The guided outcomes approach presents customers with a limited number of potential customer journeys, although customers still retain control over the path they want to take from the options available. Customers are guided to an ideal outcome by providing information on the offer that best suits them. This approach is designed around the paradigm of 'the greatest need to the greatest number' as opposed to the infinite outcomes approach of 'all things to all people'. Guided outcomes offer CSPs more effective control over customer engagement. By limiting the number of customer journeys, CSPs can focus on providing compelling customer experiences.
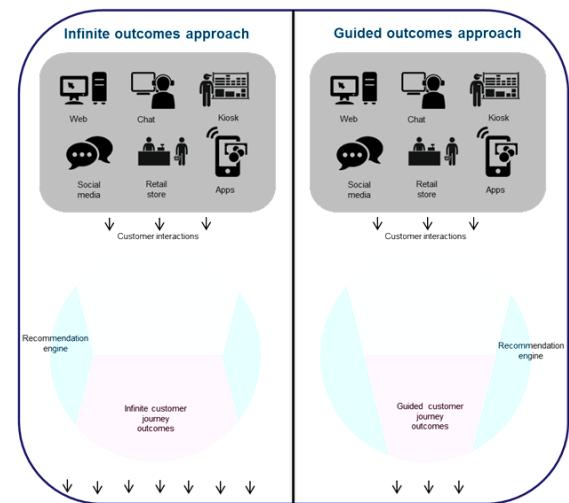

Figure 1: *Comparing infinite customer outcomes and guided customer outcomes approaches [Source: Analysys Mason, 2016]*

Crossing the chasm in customer engagement

Frictionless transactions underpin effective customer engagement, which itself requires in-depth understanding of the customer journey. For instance, consider Uber. Valued at over USD50 billion today, it is the most valuable private technology company in the world. That is staggering for a company which started operations just five years ago, in 2010. How did Uber become so successful so quickly on the back of an industry that has been around for decades? It created an exceptional customer experience by first understanding the pain points of the typical customer journey. The new thing about Uber is not the taxi ride itself, but rather the customer engagement model. Today customers can hail a taxi on their smartphones and watch the progress of the taxi on a map in real time. The billing process is seamless, and users do not have to fumble through their wallets for the right change. By innovating on customer engagement and experience, Uber has upended the taxi industry.

While Uber customers are treated to a seamless experience, the scene below the surface is far from simple. There are a myriad of challenges around regulation, predicting demand and managing supply, and traffic management and location tracking, among others. The end user is blissfully unaware of these underlying complexities and is presented with an interface that is clean, contextual, convenient and consistent.

This deep underlying complexity that Uber tactfully navigates is, in many ways, representative of the challenges that CSPs also encounter. The big challenge that CSPs face is to cross the chasm of experiential engagement with customers by offering an easy-to-use interface. Most large CSPs have multiple interaction channels, many of which are silos and inconsistent in their messaging. Consumers today demand consistent real-time control over their services, comparable to online services from Internet firms. Accomplishing this through a traditional transformational approach can be an expensive and risky proposition. However, CSPs focused on improving their customer engagement can deploy a customer experience unifying platform that can help provide a more engaging customer interaction experience. Figure 3 presents a snapshot of how CSPs can leverage a unifying customer experience platform to improve customer engagement.

While Figure 3 presents a simplified view of how a customer-experience-unifying platform will function, the actual design and deployment is intricate and will require deep domain expertise to overcome a myriad of system complexities. The particulars around the deployment of such platforms are beyond the scope of this white paper and CSPs are best advised to engage with vendors and experts who have deep domain knowledge across business support systems (BSS).

the competitive threats of digital economy players, while capitalising on their strengths and network infrastructure to become a more integrated part of the digital economy and the associated growth opportunity.

Establishing an effective customer engagement model in the midst of the evolving digital economy landscape is critical for CSPs to ensure they are not bypassed in the value chain. While CSPs have all the ingredients to become much more than a dumb pipe in the digital economy value chain, they need to ensure customer engagement is relevant, consistent and exceeds expectations. Customer behaviour and expectations are shifting, driven by customer interactions with new-age online digital companies and CSPs would do well to invest in back-end support systems in order to provide a comparable customer experience.

The Amdocs Digital Experience approach
Amdocs' vision for digital telco is built around providing a complete set of capabilities for CSPs to effectively engage with customers, employees and partners across all channels and touch points. Amdocs Digital Experience extends coverage from core BSS capabilities into enabling a consistent and personalized experience across assisted and unassisted channels. It is comprised of solutions which deliver a comprehensive omni-channel engagement that supports consistent data, channel hopping and process continuity. The six key building blocks of the Amdocs Digital Experience are:
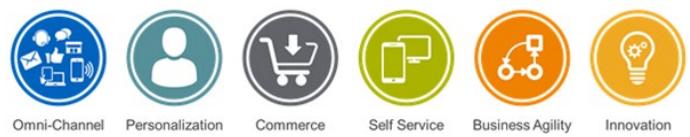
Figure 3: Layered view of CSP-powered exceptional customer engagement [Source: Analysys Mason, 2016]
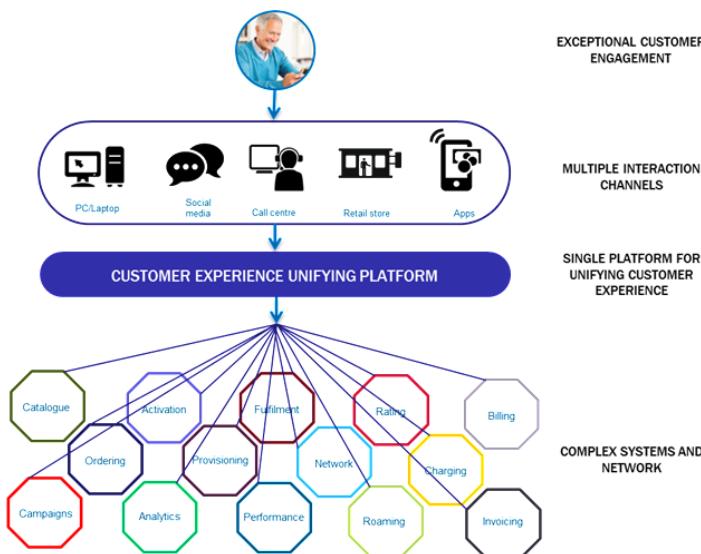
Figure 3: Layered view of CSP-powered exceptional customer engagement [Source: Analysys Mason, 2016]

Conclusion: on the cusp of change
The Internet era has triggered a massive shift in the telecoms industry with strong competition, declining voice revenues and dramatic growth of data consumption. CSPs worldwide are actively exploring ways to defend against

- **Omni-channel:** Amdocs omni-channel strategy is built around ensuring the same information is available on both assisted and unassisted channels through the use of widgets so that CSPs can build once and deploy across multiple channels.
- **Personalization:** Amdocs Digital Experience uses insights based on the customer profile and online behaviour and navigation, utilizing data such as eligibility, compatibility and service usage patterns to enable contextual promotions. It also delivers dynamic pricing for products and services during configuration, and is integrated to Amdocs Big Data analytics for targeting and micro segmentation.
- **Commerce:** Amdocs Commerce solution delivers a single catalogue driven shopping experience for all business services from traditional services to multi-play, entertainment and digital content. The capabilities range from supporting end-to-end purchase journeys for new customers to assisting existing customers while they explore new plans or upgrades, personalized pricing, comparison of items, order tracking and search engine optimization. These flows are supported and integrated across digital interfaces, contact centres and retail channels.

- **Self-service:** Amdocs Digital Care solution powers both assisted and unassisted channels with a specific focus on self-service capabilities that enable customers to manage and track their account effectively. It also enables CSPs to cross-sell and up-sell services by providing end-to-end visibility and insight into the customer journey across various touchpoints.

- **Business agility:** Amdocs Digital Experience is built on a single master enterprise catalogue which integrates across all channels allowing for faster time to market for new products and services. Business users are also empowered to create their own experience with an abstraction of widgets into the web content management platform.

- **Innovation:** Amdocs assists CSPs to improve customer engagement and experience by connecting to an ever-growing partner ecosystem tailored to provide channel specific solutions.

The Amdocs Digital Experience combined with a complete set of products and services from strategy and design to implementation and managed services supports CSPs in their transition to a digitally enabled service provider. Amdocs leverages its deep understanding of intricate CSP environments by removing complexity in order to enable a superior digital customer experience.

Mahfazati, Jordan's first mobile wallet, launched by Umniah

Umniah Team

The lives of many Jordanians and the security of their finances are set to improve as the Central Bank of Jordan (CBJ) has approved the implementation of the country´s first mobile wallet. Umniah launched its secure mobile financial system, Mahfazati on January 19, 2016, bringing global technology to people across Jordan. Mahfazati is a comprehensive financial system for consumers, considered a bank account and characterized by high levels of security and compatibility with the national payment systems applied by the Central Bank of Jordan (CBJ). This technology supports all individuals, including those who do not or cannot access banks, allowing them to use a basic mobile phone or smartphone to perform electronic financial tasks such as paying for purchases, making money transfers, withdrawing money from ATMs and paying for bills and services easily and, most importantly, securely.

Mahfazati, which acts like a bank account and matches the electronic payment systems offered by the CBJ, is expected to be of great benefit to the entire national economy, attracting a major following, particularly among unbanked Jordanians.

Executive Manager of CBJ´s Domestic Payments and Banking Operations Department and member of the Jordan National Payment Council Maha Bahou said, "In Jordan, where some 75 percent of the population is unbanked, the potential is huge for the adoption of such services, especially since making transfers using such services is cheaper than making transfers via banks." Bahou also added that "Opening mobile wallets with telecoms is easier than opening accounts with banks…There are no branches for banks in remote areas and villages, and it is unfeasible for banks to open branches in such areas, but residents of these areas have mobiles and can use them to make transfers and pay for their needs."

Bahou stressed that people in Jordan who earn low incomes, are owners of small economic projects or are workers in small or home-based trades will particularly benefit from Umniah´s Mahfazati service because they will be able to receive financial and account statements that indicate their fiscal situation and monthly income. These statements will help banks verify an individual's ability to make payments and, in turn, allow banks and individuals to engage in the process

of lending and borrowing. This will consequently have a positive impact on investments and support economic projects in a way that will strengthen the investment sector in Jordan and create new job opportunities.

With a high mobile penetration rate of 157 percent in Jordan by the end of 2015, and over 13.1 million active mobile subscriptions according to the Telecommunications Regulatory Commission, Umniah CEO Ziad Shatara agrees that Umniah´s Mahfazati service will make the lives of many Jordanians easier and ensure their finances are more secure. He said that the company was proud to be able to initiate the Mahfazati service as part of its efforts to provide advanced technological solutions that fulfil the needs of clients within Jordan. Shatara emphasized the convenience that Mahfazati offers, explaining that clients may withdraw cash from any of Umniah´s branches or ATMs and only need a basic mobile to have mobile wallets. They do not need an Internet connection or smartphone. Bahou also stressed that the CBJ took several measures to ensure that these services are safe and there are several security layers to earn user trust and confidence to facilitate the roll out of these services."To further enhance security, Umniah will guarantee the safety of Mahfazati-accessible money in the event that a mobile phone is lost or stolen.

Mahfazati is available to subscribers with basic or smart mobile phones aged 18 years and over, regardless of nationality and mobile network provider. With Mahfazati´s reliable application interface, users are able to deposit money at any of Umniah's 45 branches or in the accounts of any accredited partners, dealers and sub-traders. The money can then be withdrawn from any of Umniah's branches or through EMP and ATM machines in Jordan. Mahfazati will also offer users the option to check their account balances and view financial transfer records via their mobile phone. Moreover, Umniah´s secure mobile financial solution allows users to transfer funds and make financial operations from one Umniah portfolio to another Umniah portfolio, as well as to portfolios on other platforms, regardless of the mobile service provider. In addition, users are able to make payments to government institutions (P2G), to sellers or merchants (P2M) and to another person (P2P) using Near Field Communication (NFC) technology between mobile devices held close to each other.

Umniah is the first telecom operator in the country to receive approval from CBJ, the nation´s highest banking authority, to roll out a comprehensive mobile financial system for consumers. Mahfazati is now available, and is implemented in two phases. The first phase will enable secure transfers through CBJ systems with low transfer fees, and subscribers will be able to control and manage their expenses, as well as receive financial reports on their payments. The second phase will allow users to carry out financial withdrawals, take advantage of local offers, collect points and win prizes from Umniah's financial transfers, and receive offers for free local and international telephone calls.

By implementing Mahfazati in two phases, Umniah aims to gradually strengthen the level of trust felt by consumers in the service and facilitate purchases for subscribers by

providing them with affordable financial services and a simple experience via a convenient, easy and secure payment method. Shatara explained Mahfazati´s rollout plan by emphasizing that "Umniah constantly remains aware of the evolving needs of clients and will continuously provide new

and innovative services that pre-empt their expectations, taking advantage of the infrastructure provided by the Central Bank for the electronic payment system." By working with CBJ, Shatara acknowledged that Mahfazati will not only bring new and innovative services that will meet the needs of consumers in Jordan but importantly, Mahfazati "will also be of great benefit to the entire national economy."
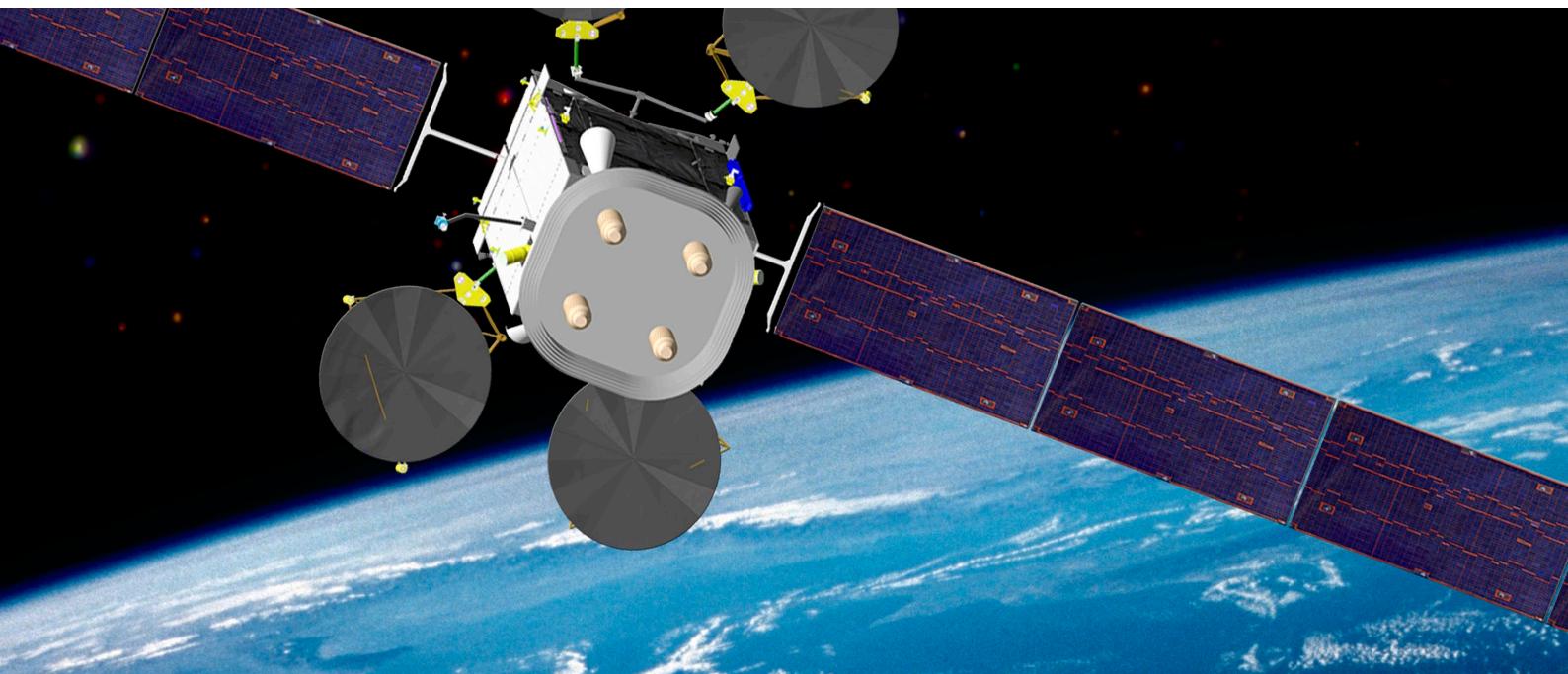
SATELLITE NEWS

SATELLITE UPDATES

Only Sri Lanka signs up for India's Saarc satellite plan

More than a year after Indian PM first mooted the idea during the 18th SAARC summit held in Nepal in 2014, only Sri Lanka has formally agreed to join the SAARC satellite project. An Isro official told TOI on Thursday that the remaining six members, including Pakistan, have so far only given their approval in principle. The official said that the apprehension of those who have not formally joined the project is that the mission will give India an upper hand among the SAARC members both politically and scientifically. Pakistan fears that the SAARC satellite will provide India an access to sensitive Pakistani data. Provisionally, the semi-political Indian space mission is slated for lift off towards the end of 2016 or early 2017. The official said that even if the rest do not join, the satellite will still be launched, but it will have limited scope. Work on the satellite has already been initiated. The Rs 235-crore project will provide a range of applications and services to SAARC members in the areas of telecommunication, broadcasting, DTH, disaster management, tele-education and tele-medicine. "We are hoping that the remaining six members will participate and the external affairs ministry is in touch with them," he said.

SpeedCast Inks Ku-band Capacity Deal with Gazprom Space Systems

SpeedCast International has entered a new agreement with Russia-based Gazprom Space Systems (GSS), to expand satellite communications services in Africa. This partnership allows SpeedCast to use capacity on GSS' Yamal 402 Ku-band satellite to provide high-performance services to oil and gas companies across Africa. SpeedCast leverages uplink capabilities based in Germany so that customers can land traffic directly in Europe. Yamal 402 is located at 55 degrees east and launched in 2012.

Paradigm Releases Swarm45 Flat Panel Ka-Band Terminal

U.K.-based Paradigm has unveiled a new flat-panel terminal for military, broadcast, government and disaster recovery sectors. The Swarm45 terminal provides high data rate communications from any high-throughput Ka-band satellite. The portable terminal has a total weight of 14.5kg (32lbs), conforming to International Air Transport Association (IATA) regulations with packaging. Designed around the Paradigm Interface

Module (PIM) terminal controller, the Swarm45 enables setup and pointing for operations in less than 5 minutes. The PIM has an integrated modem, and integrated audio and visual pointing aids that provide an effective method of acquiring the satellite without the extra bulk of motors and controllers. "With the Swarm45, we are providing the high data rates of [Very Small Aperture Terminal] VSAT with the same portability and simplicity of [Broadband Global Area Network] BGAN," said Warren Ackerley, business development director at Paradigm.

Brazil's TIM Exploring Ka-band Satellite Deal with Yahsat

TIM, the second largest mobile operator in Brazil, is in discussions with UAE-based satellite operator Yahsat around the use of Ka-band services in Brazil, commencing in 2017. "TIM is looking for the best processes to minimizing costs and maximizing efficiency, supporting areas currently unserved or under-served by good terrestrial communications links, extending offerings across the interior of the country and reinforcing TIM's key role for social and economic development of these areas. Therefore, we have been discussing the use of Ka-band in Brazil for backhaul with Yahsat and we are confident in Yahsat's technical and operational platform to serve our future needs," said Marcelo Duarte, head of wholesale at TIM Brazil. Al Yah 3, Yahsat's third satellite, is scheduled to launch in 2017 with Arianespace and expands the operator's coverage into the Brazilian market. Yahsat has two geographically separated gateways for the satellite to counter outages due to heavy rain or ensure continuity during scheduled or unscheduled maintenance. Orbital ATK is building the satellite, which will provide coverage to more than 95 percent of the Brazilian population.

Integrasys Launches Alusat 'Always Up Satellite Terminal'

Integrasys has released a new automated Very Small Aperture Terminal (VSAT) maintenance tool called Always Up Satellite Terminal (Alusat), which combines traditional equipment management with spectrum monitoring and measurement to accurately derive a remote terminal's Radio Frequency (RF) status and pinpoint terminals that are not functioning properly. The tool is designed to improve maintenance, as VSATs often operate in remote, difficult to reach areas. Alusat can address VSATs that experienced misalignment during installation or from adverse weather, which can cause problems for an entire network. In certain conditions, Alusat can even recover out-of-service or service-degraded terminals. "Alusat allows a virtual visit to every site on the network, reducing or even eliminating the need for a physical presence at certain sites. Alusat also allows the consistent monitoring of a VSAT site after installation to ensure optimization of operation and the minimization of costs caused by service failures," said Juan Martinez, technical director at Integrasys. Alusat reduces the need to deploy personnel to individual sites and minimizes maintenance time and effort, freeing up personnel and improving network efficiency. Operators can determine the different thresholds for Rx and Tx and the actions to be taken automatically by the system in different circumstances to rectify problems. Alusat displays High Throughput Satellite (HTS) footprints and calculates link thresholds, then checks all of the terminals in the targeted VSAT community, analyzing the Rx and Tx measured values of co-polar power, cross-polar isolation, adjacent satellite interference and 1dB compression point to detect failures and raise any necessary alarms. This technology is important for networks with adaptive power adjustment capability, as it is able to calibrate the saturation point for each remote, maximizing the overall network performance. This is fully automated from the Network Operations Center (NOC).

Iridium Awarded Gateway Modernization Contract from DOD

Iridium Communications has been awarded an $8.57 million task order from the U.S. Defense Information Systems Agency (DISA), to make upgrades and enhancements to the U.S. Department of Defense's (DOD) dedicated Iridium gateway. DISA issued the funding under the Gateway Modernization Efforts contract to improve network effectiveness, performance and continued preparation efforts for Iridium Next, the company's next-generation global satellite constellation. Iridium provides mission-critical communications for the DOD, which has access to unlimited airtime service for voice, data, paging and Distributed Tactical Communications Services (DTCS), along with its partners, under the fixed-price Enhanced Mobile Satellite Services (EMSS) contract. Iridium Next is scheduled to begin launching this year, with completion following in late 2017. The new constellation will offer greater bandwidth and data speeds than the company's existing constellation.

Eutelsat Fleet Reaches 6,000 Channel Mark

Eutelsat Communications has reached a new record number of channels, having crossed the threshold of 6,000 channels broadcasting from its fleet. The company attributes this new level to strong channel growth in fast growing markets, the continued deployment of pay-TV platforms, and a diversified offer of Free-to-Air (FTA) channels. Eutelsat is distributing video content for a total of 50 platforms, with Africa showing the most pronounced regional dynamic as the continent accelerates the transition from analog to digital TV. Over the last 12 months, six platforms have launched or expanded their activities at Eutelsat's African video neighborhoods at 7 degrees east, 16 degrees east and 36 degrees east. Eutelsat is broadcasting more than 2,200 channels FTA. The Middle East and Africa is one of Eutelsat's fastest-growing regions. In Sub-Saharan Africa, the company transmits half of the 1,136 satellite channels broadcast today. High Definition (HD) channels now account for more than 12 percent of Eutelsat's total channel count and continues to rise, especially in Europe and the Middle East. Eutelsat is also transmitting its first commercial Ultra-HD channels in Russia and Europe. The operator recently launched a new satellite, Eutelsat 9B aboard a Proton rocket Jan. 30, and has two new satellites, Eutelsat 117 West B and Eutelsat 65 West A slated to launch for additional capacity.

Galaxy Broadband Certifies C-Com Ka-band Antennas

C-Com Satellite Systems has received approval to operate its Ka-band iNetVu mobile antenna products on Galaxy Broadband's network. Galaxy Broadband provides enterprise grade

VSAT services to remote areas across Canada and the United States. C-Com deployed and tested the iNetVu Ka-98H system on the Galaxy F2 Ka-band network in January. The approval expands C-Com's footprint for service in the most northern parts of Canada. Galaxy Broadband's Ka-band network covers British Columbia, Northern Alberta, Northern Saskatchewan, Northwest Territories, Nunavut and Eastern Alaska. With Galaxy's service offering, mobile clients in the Canadian Arctic can now have access to a network that can deliver 5 Mbps down and 2 Mbps up, rivaling speeds available in more southern locations of the country. "We feel this is a very good opportunity for delivering mobile solutions throughout our Ka-band beam coverage, including the Canadian Arctic," said Rick Hodgkinson, president and CEO of Galaxy Broadband. "We see many opportunities for remote exploration, temporary sites and government solutions using mobile antennas in combination with Galaxy's high power Ka spot beams that deliver an enterprise high Quality of Service (QoS) network."

SoftBank Planning LTE Services with Gilat Satellite-Based Cellular Backhaul Technology

Japanese telco SoftBank intends to provide high-speed LTE services using Gilat's satellite-based cellular backhaul technology following a successful field trial. This technology makes it possible for SoftBank to cost-effectively offer high-speed mobile communication services in remote areas where it is difficult to install fixed-line facilities and base stations. SoftBank expects to offer commercial services in Japan

based on this technology within 2016. SoftBank has used satellite backhaul to provide 3G mobile communications in regions of Japan where it is difficult to build facilities for fixed-line and mobile communications. The company contributed to the development of Gilat's SkyEdge 2-c high-speed satellite communications platform early on, and conducted verification work along the way. The latest trials demonstrated File Transfer Protocol (FTP) downlink rates of up to 100Mbps using mobile handsets, which until now have been very difficult to achieve. "With this technology, we will be able to also offer high-speed LTE services in mountainous regions, remote islands and other areas in Japan where it is difficult to install fixed-line backhaul cost-effectively and quickly. We already have satellite-based backhaul in those regions, but now we will be able to offer our customers LTE speeds. We also expect to see the application of this technology to the mobile network of our group company Sprint in the U.S. Our hope is that this technology will help play a role in bridging the digital divide," said Yasuyuki Imai, executive vice president and head of the technology unit at SoftBank.

Panasonic Makes Major HTS Capacity Commitment on Telesat's Telstar 12 Vantage

Panasonic Avionics has booked nearly all the High Throughput Satellite (HTS) Ku-band capacity covering the Mediterranean, Europe and Middle

East on Telstar 12 Vantage through a new a multi-year contract with Telesat. The capacity covers major aeronautical routes from Western Europe to the Middle East, enabling the company to provide In-Flight Connectivity (IFC) to carriers across the region. Panasonic will also be using the capacity to expand its maritime services in

the Mediterranean and European waterways, as well as to oil and gas operators in the North Sea. Telstar 12 Vantage entered full operations at 15 degrees west in December 2015 following a launch on Mitsubishi Heavy Industries' H2A rocket. Panasonic Avionics collaborated with Telesat on locating the HTS spot beams to meet Panasonic's requirements. The company now has Ku-band capacity on four Telesat satellites.

Orbcomm Wins Lockheed Martin IoT Contract

Lockheed Martin's Aeronautics Division has selected Orbcomm's turnkey iApp platform as a replacement to its existing Radio Frequency Identification (RFID)-based data collection solution. The iApp platform will enable automated data capture, processing, traceability and analysis of assets located at global storage sites that Lockheed Martin manages along with its partners and sellers. Orbcomm will leverage Lockheed Martin's next generation Automated Identification Technology (AIT) infrastructure to automate its data collection system. The company's iApp platform will locate and track mission-critical assets enabled with RFID readers using a single enterprise solution.

Dankberg: ViaSat 3 Satellites Will Have More Capacity than the Rest of the World Combined

ViaSat projects that its next generation satellite system will have more capacity than all the other telecommunications spacecraft in the world. The company is aggressively developing ViaSat 3, a trio of geostationary high capacity satellites where each spacecraft will be capable of more than a terabit per second of network capacity. Speaking during ViaSat's third quarter 2016 earnings call, Chairman and CEO Mark Dankberg said that ViaSat 3 is already progressing much faster than ViaSat 2 because of several years of accumulated work. When the spacecraft is ready, it will more than double the amount of bandwidth in orbit, according to Dankberg. "Each ViaSat 3 satellite is anticipated to have as much bandwidth as all the rest of the

satellites in the world combined. And that includes all of the High Throughput Satellites (HTS) that are now under construction," he said. Development of the ViaSat 3 system will consist of a lot of vertically integrated work by the company. Dankberg said ViaSat has experience building satellite payloads from a subcontract with Thales Alenia Space related to Iridium Next. Boeing, announced in a Feb. 10 press release as the build partner for the first two ViaSat 3 satellites, will have a somewhat smaller role. "The way that we structured our contract with Boeing is essentially they are giving us the payload framework for us to attach our modules to," explained Dankberg. Compared to the space between ViaSat 1 and ViaSat 2, which is expected to be about five years, Dankberg said the company is targeting a gap of only about two years between ViaSat 2 and the first ViaSat 3 spacecraft. He said the company would have benefited from launching ViaSat 2 much earlier, but that the technology was simply not ready. "We have been investing steadily for years in the successor for ViaSat 2, so this time we are aiming to cut that gap between satellites roughly in half while still getting an even bigger boost in productivity," he said. "We are planning to launch ViaSat 3 Americas in mid-calendar 2019 and ViaSat 3 in the Europe, Middle East, [and] Africa (EMEA) region for early 2020." The third ViaSat 3 satellite targets the Asia-Pacific market. ViaSat's soonest satellite to launch, ViaSat 2, recently switched from SpaceX to Arianespace, and is now scheduled to launch in the first quarter of 2017. ViaSat 2 was booked for a Falcon Heavy launch late this summer, but that was prior to SpaceX's Commercial Resupply Services-7 (CRS-7) mission where a Falcon 9 rocket exploded roughly two minutes after takeoff. The launch mishap not only delayed the Falcon 9, but pushed back the debut of the Falcon Heavy, which uses three Falcon 9 engine cores. Dankberg said insurance pricing for the Falcon Heavy was also much higher than for the Ariane 5. In between ViaSat 2 and 3, Dankberg said the company is evaluating options for interim capacity with partner Eutelsat. ViaSat and Eutelsat have worked together for 10 years and struck up an agreement in July 2014 for service access and roaming between KA-SAT and ViaSat 1. Recently the two companies have tightened their partnership to include the formation of

a joint venture. The new company will start by using KA-SAT, which covers Europe and the Mediterranean Basin, for a wholesale broadband business and a new consumer retail service. ViaSat plans to invest roughly $150 million for 49 percent interest in the wholesale services business, which will start with KA-SAT and is later expected to leverage the ViaSat 3 EMEA satellite. For the retail business, ViaSat will own 51 percent, and Eutelsat 49 percent. This division would be focused on building a direct-to-consumer Internet Service Provider (ISP) business in Europe. ViaSat and Eutelsat anticipate the transaction will close in the second quarter of 2016, subject to regulatory approvals and other customary closing conditions. Dankberg listed Eutelsat's strong presence in Europe, including regulatory and landing rights positions across the continent, and inventory of orbital slots as reasons for the partnership. "And as we have seen in the U.S., there is a very high congruence between the people who have satellite Internet and the people who have satellite TV, so working with a leading satellite TV provider is a strong position," he added. Dankberg said interim capacity for Europe could come in the form of a "quick production" satellite such as the Boeing 702SP, or potentially using an existing Ka-band payload, but that these paths are still being evaluated. Once launched, ViaSat 2's coverage includes not only the Americas and Caribbean, but also a bridge with Eutelsat to the U.K. and Europe for high-speed In-Flight Connectivity (IFC) and other mobile services. Dankberg said ViaSat 2's projected in-service date is Q1 2018. Furthermore, the terminals for ViaSat 2 will be forward compatible with ViaSat 3. Dankberg mentioned IFC, general aviation and government as top markets for upcoming satellites, along with maritime. He said the company has added more than 100 unannounced aircraft recently from existing airline customers as they enact fleet modernization programs.

ViaSat, Eutelsat create European broadband joint venture

ViaSat and Eutelsat Communications have agreed to create a joint venture combining Eutelsat's current European broadband business with

ViaSat's broadband technologies and consumer ISP business expertise. The venture will expand Eutelsat's current wholesale broadband business and launch a new consumer retail service in Europe. The business will initially leverage KA-SAT, Eutelsat's high capacity broadband satellite, and consist of two businesses coordinating efforts to expand the European broadband market: Wholesale Services and Retail Services. ViaSat will take a 49 percent stake in the first for USD 132.5 million while the second will be 51 percent owned by ViaSat and 49 percent by Eutelsat. Wholesale Services will be focused on providing wholesale broadband services in the European and Mediterranean regions, to the newly established retail services business and existing Eutelsat distributors. Eutelsat will contribute its current European broadband business, including the KA-SAT satellite. ViaSat will continue to provide selected broadband technologies for KA-SAT gateways and terminals. For future capacity, the partnership will continue to evaluate over the next few months the ViaSat-3 technology and the extent and the terms under which it would utilize the European capacity on the new ultra-high throughput ViaSat-3 platform, which ViaSat expects to bring into service in 2020. The partnership will also continue to study other options to add growth capacity in the nearer and long term. Retail Services will be focused on building a direct-to-consumer ISP business in Europe. Enhanced service plans will be introduced in select European countries throughout 2016, setting a foundation for growth in the retail services business with the availability of future satellite capacity. The transaction is subject to regulatory approvals and other customary closing conditions. It is currently expected to close during the second quarter of this year.

Eutelsat 65 West A Prepped for March 9 Arianespace Launch

Eutelsat's next satellite, Eutelsat 65 West A, landed in Kourou, French Guiana on Feb. 6 for an upcoming Ariane 5 launch March 9. The 6.5-ton Space Systems Loral (SSL)-built satellite will be located at 65 degrees west, a premier position for the Brazilian TV market, ahead of the 2016

Rio de Janeiro Olympics. Eutelsat 65 West A has 10 C-band and 24 Ku-band transponders for video and data services, and 24 Ka-band spot beams for broadband connectivity in key regions. The spacecraft's C-band coverage is designed to enable cross-continental video contribution and distribution. Hughes do Brasil booked the entire Ka-band high throughput payload for broadband services. Based on the SSL-1300 platform, the satellite is designed to provide approximately 16-kW of power at end of life. Eutelsat 65 West A is one of three satellites from Eutelsat launching between this year and last year to bolster its coverage of the Americas. Eutelsat 115 West B launched last year, and Eutelsat 117 West B is scheduled to launch later this year.

Inmarsat Joins LoRa Alliance, will Help set Standards for IoT

Inmarsat has become a member of the LoRa Alliance, an international non-profit organization founded in 2015 to standardize Low Power Wide Area Networks (LPWAN) for the Internet of Things (IoT). Members of the Lora Alliance seek to guarantee interoperability between operators in order to make LoRaWAN an open global standard for IoT applications worldwide. Inmarsat will provide the LoRa ecosystem with satellite connectivity to enable the deployment of solutions anywhere an object or device needs to be connected. "Inmarsat is the first global satellite operator to join us. Their expertise and know-how in delivering mission critical mobile communication services to businesses and institutions worldwide will be a great asset to further develop the LoRaWAN ecosystem," said Olivier Hersent, CEO and CTO of Actility. In a January interview with Via Satellite, LoRa Alliance Chairman Geoff Mulligan said the organization was very interested in having satellite operators join. LPWANs connect devices over large regions, and satellite can play a role by backhauling data.

Atlas Space Operations Conducts Successful Freedom Platform Test

Atlas Space Operations, in cooperation

with the National Oceanographic and Atmospheric Administration (NOAA) and partner RT Logic has successfully tested its Freedom Platform, performing numerous live S-band downlink operations using a support antenna in Southern California. This test validates operational functionality of the Atlas Freedom Platform by testing the connection between operational space assets and the Atlas ground architecture. Atlas collected vital system performance metrics from the tests, which used cloud-based virtual systems and 100 percent encrypted connections. The Atlas Freedom Platform allows low latency Machine-to-Machine (M2M) communications via the REST web service standard. The platform allows customers to configure, task, and command satellites, while providing data dissemination and archiving. Atlas provides data warehousing backed by Amazon Web Services. "Our base system is fully automated. If a customer doesn't need any tailoring we can beat competitors pricing by large margins," said Sean McDaniel, CEO of Atlas. "We must make ground station access more affordable for the new space industry to take off."

Hispasat Upgrading Ground Segment with Indra

Spanish satellite operator Hispasat is preparing the ground segment for the new Hispasat 1F and Amazonas 5 satellites, having awarded a $5.5 million contract to Indra for the supply of four ground stations along with other upgrades. Two of the stations will be installed in the Hispasat control center in Rio de Janeiro, Brazil, while another will be put into operation in the Canary Islands, and the fourth in Madrid, Spain. Indra is also updating several existing stations, which were

supplied in previous contracts. Both new satellites bring additional capacity to Latin America. Amazonas 5 primarily targets television platforms in Latin America and Brazil, though it also has Ka-band capacity for new Internet connectivity services. Hispasat 1F will serve as a replacement to Hispasat 1D, providing additional Ku-band capacity to the Andean and Brazilian regions, while enabling greater two-way transatlantic communications between Europe and the Americas and vice versa. Based in Spain, Indra has implemented the system that controls the Amazonas 1, 2, 3 and 4 satellites and the Hispasat 1A, 1B, 1C, 1D and 1E satellites. The company's new contract calls for the completion of the upgrades by January 2017.

nbn's satellite service get first demonstration

nbn (formerly NBN Co), the company overseeing Australia's National Broadband Network (NBN) project, has conducted the first demonstration of its satellite broadband service, Sky Muster. Taking place at the ENEX Test Lab in Brunswick, Victoria, Sky Muster was shown off delivering Layer-3 speeds of 25Mbps download and 4Mbps upload, just below the 25Mbps/5Mbps maximum wholesale speeds expected to be available on the service. During the demonstration the satellite service delivered content from applications including YouTube, Facebook, Google Maps, along with showing off Skype video-calling and web browsing. With plans to launch end-user trials in the coming weeks to around 200 premises in regional Victoria as part of further service testing, Gavin Williams, Executive General Manager of Fixed Wireless and Satellite at nbn, said: 'We are delighted with the progress that we are making towards the planned launch of Sky Muster commercial services in the next couple of months ... Rural and remote Australians will be able to access fast and reliable internet through their phone and internet provider in the bush, via the Sky Muster service.'

Iran Unveils New Achievements in Space Field

Iran displayed 3 new achievements in space field in a ceremony to mark the country's National Day of Space Technology. The ceremony was held at the Headquarters of the Islamic Summit in Tehran and was attended by Iran's President Hassan Rouhani. The achievements include the remote testing laboratory of Iran Space Agency, the center of satellite aggregation and test center affiliated to Iran Space Research Center. Iran successfully launched into orbit its first indigenous data-processing satellite, Omid (Hope), back on February 2, 2009. As part of a comprehensive plan to develop its space program, Iran also successfully launched its second satellite, dubbed Rassad (Observation), into the earth's orbit in June 2011. Rassad's mission was to take images of the earth and transmit them along with telemetry information to ground stations. The country's third domestically-built Navid-e Elm-o Sanat (Harbinger of Science and Industry) satellite was sent into orbit in February 2012. In January 2013, Iran sent a monkey into space aboard an indigenous bio-capsule code-named Pishgam (Pioneer). And later in December 2013, the country's scientists successfully sent a monkey, called 'Fargam' or Auspicious, into space aboard Pajoheshan (Research) indigenous rocket and returned the live simian back to earth safely.

XTAR Drawing up Plans for Next Generation Satellites

XTAR is in the early stages of planning the replacement satellites for its next generation constellation. The operator's two spacecraft, XTAR Eur at 29 degrees east and XTAR Lant at 30 degrees west, are now 10 and 11 years old, respectively. As these satellites start nearing their nominal end of life, XTAR is evaluating technology that will not only improve the fleet, but potentially globalize it as well. Philip Harlow, president and COO of XTAR, says much has changed since the operator launched its existing satellites a decade ago. A growing number of operators are fielding Ka-band and High Throughput Satellites (HTS). New sources of competition have risen as

well. XTAR's focus is exclusively on the government market, and today the company only operates in X band. Harlow told Via Satellite that while the company's core market will remain the same, XTAR is considering a variety of technologies to better meet demand. "As we look at the replacement strategy over the next several years, those factors will come into play," said Harlow. "The success of the business model means as we build and launch these replacement satellites, we are going to have a lot more capacity and capability in the future to serve the applications that have been driving demand — airborne Intelligence, Surveillance and Reconnaissance (ISR), man-packs, mobile and maritime platforms." Harlow said XTAR is still just at the beginning of the replacement process. He anticipates issuing a Request for Proposals (RFP) potentially in early 2017 for XTAR Eur, followed by another RFP for XTAR Lant a year later. XTAR is planning several advances with its future satellites, as well. Harlow said the operator wants to be well ahead of the U.S. Defense Information Systems Agency's (DISA's) Information Assurance (IA) checklist, which did not come out until after XTAR had already procured its existing fleet. XTAR does meet these requirements today, but Harlow said the company is looking to add new features that customers find desirable to stay ahead of the game. "We will be adding additional features. In particular, geolocation is one of those capabilities. With X-band being a particular frequency band for government, and being further spaced apart in the sky, geolocation is a challenge, so we are going to enhance those capabilities," he said. Harlow said XTAR does not feel the need to add HTS to its fleet today. Adding loads of small spot beams would require a complex accompanying ground segment, and the company has received favorable feedback from customers regarding the size of its beams today. Harlow said the wide beams XTAR uses make it technically and operationally easier to stay in contact with end users by covering larger areas. "I doubt it would go all the way to where high throughput satellites are; we simply do not need hundreds of transponders on our satellites. We feel that the current 12 transponders we have on [XTAR Eur] will double, maybe triple, but certainly no more than that," he added. Regarding future technologies, Harlow said he would like to see

greater ability to dynamically switch transponders between beams to match capacity to areas with surging demand. Telemetry encryption is something he also said XTAR will definitely be including. Harlow is less interested in beam-shaping antenna systems, but does describe electric propulsion as a potential game changer. "I am very excited about electric propulsion. I think that takes us away from relying on the fuel on a satellite to now being dependent on how good your electronics are. If you can put a satellite up that doesn't need much fuel for station keeping, now the end of life of your satellite is based on how long do your electronics last," he explained, adding that geostationary satellites could last around 25 years compared to today's typical 15 to 18 year lifespans. XTAR is also considering hosted payloads as a potential avenue. The operator already hosts a payload on XTAR Eur, and XTAR Lant itself is a hosted payload on Spainsat. Harlow mused that hosted payloads could be a means for XTAR to reach global coverage, which is a growing priority for the company.

ILS Orbits Eutelsat 9B Satellite with EDRS Laser Payload

International Launch Services (ILS) launched the Eutelsat 9B satellite carrying the first European Data Relay System (EDRS) payload into orbit using a Proton rocket. Built by Airbus Defence and Space, Eutelsat 9B carries 56 Ku-band transponders for the 9 degrees east orbital position. The satellite spreads capacity across five footprints and employs frequency reuse to optimize bandwidth. Eutelsat 9B hosts the EDRS-A laser terminal, designed to accelerate communications from Low Earth Orbit (LEO) remote sensing spacecraft. EDRS, also known as the SpaceDataHighway, is being implemented through a Public Private Partnership (PPP) between the European Space Agency (ESA) and Airbus Defence and Space. The Jan. 30 launch marks the first Proton mission of 2016, and the 410th overall for the launch vehicle. For ILS, Eutelsat 9B is the company's 92nd Proton launch. ILS and Eutelsat signed a multi-launch agreement last year for several missions between 2016 and 2023, of which Eutelsat 9B is the first.

SAMENA Council's Board of Directors' Election Held – **New Leadership Unveiled**

The South Asia, Middle East, North Africa region's telecommunications industry association, SAMENA Council, is now being headed by Dr. Khaled H. Biyari, Group CEO of Saudi Telecom Company as the Chairman of its Board of Directors. Mr. Ihab Hinnawi, Group CEO of Batelco is the new Vice-Chairman of the Board.

This marks the beginning of a new leadership, which TurkCell, through Mr. Kaan Terzioglu, CEO; Turksat, represented by Mr. Ensar Gul, CEO; Viva Kuwait, represented by Mr. Salman Al Badran, CEO; and Zain, represented by Mr. Scott Gegenheimer, Group CEO, have joined as new members of the Board and will contribute their visions for the welfare of the telecom operator community as well as the industry, at large.

The new telecom operator-driven Board of Directors is now constituted by STC, Batelco, Etisalat Group, Omantel, Ooredoo Group, Orange-Jordan, Turk Telekom, TurkCell, TurkSat, Viva Kuwait, and Zain Group, all of which are amongst the largest network operators and the most recognized brands in the SAMENA region.

Bocar BA, who is the 12th member of the Board, continues to lead SAMENA Council as the chief executive officer.

The new Board of Directors has been elected by peers, chief executives of telecom operators, to provide leadership and an overall strategic direction for the Council, to deliver leadership points of views on regional telecom business matters in support of telecom operators, whose business interests and voice SAMENA Council is designed to represent on global fora and both policy-maker and regulatory circles. The Board establishes policies for the Council's not-for-profit operations and makes its recommendations to its membership on issues and matters that concern the telecom business, and concerns raised throughout the industry as regards technology deployment and/or device design.

The Board has the authority to interpret and make amendments to SAMENA Telecommunications Council Charter of Bylaws as it deems appropriate, as long as it is in accordance with the overall purpose of the Council and the welfare of its membership.

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