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SAMENA TRENDS

EXCLUSIVELY FOR SAMENA TELECOMMUNICATIONS COUNCIL'S MEMBERS

BUILDING DIGITAL ECONOMIES

A SAMENA Telecommunications Council Newsletter



Exclusive Interview

H.E. Hamad Obaid Al Mansoori
Director General
**Telecommunications Regulatory
Authority, UAE**

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Editor-in-Chief

Bocar A. BA

Contributing Editors

Izhar Ahmad
Javaid Akhtar Malik

Contributing Members

Alfa Telecom
Analysys Mason
Mobily Telecommunication
Vodafone Qatar

Publisher

SAMENA Telecommunications Council

Subscriptions

subscriptions@samenacouncil.org

Advertising

ads@samenacouncil.org

Legal Issues or Concerns

legal@samenacouncil.org

SAMENA TRENDS

trends@samenacouncil.org
Tel: +971.4.364.2700



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The future of mobile broadband and the need for innovative spectrum management solutions



We all reached an empirical consensus in the not-so-distant past that broadband, especially mobile broadband, is where the future holds the most opportunities for the business and for those who will use it.

Broadband is the driver of digital economy, which is increasingly playing an important role in nation-building. This role will become ever more integral to furthering social and economic development initiatives throughout the world. Such initiatives will target various sectors, including but certainly not limited to ICT, health, education, finance, oil and gas, among others. With this realization, we are compelled to admit that the future of broadband and of any related and relevant progressive measures taken to accelerate the role of digital economy toward overall national socio-economic activity do, in fact, depend on the availability of one of the world's most limited resources: spectrum.

Spectrum is one area where, again, we all have much to say and share. Recognizably, there is a growing need for more of it and something must be done to make more of it available and less of it managed inefficiently as it has been, historically. The rationale behind expressing this concern is simple enough: We are no longer just talking of speculations of exponential growth in data traffic -- it is a reality -- but rather of an emerging phenomenon, commonly being referred to as the Internet of Things (IoT) and its consequential applications and implications. A hyper-connected world in its truest form is before us and will begun to impact our industry and our lives sooner than we realize, presently. The only way to deal with and benefit from the awaited emergence of new IoT technologies, is to first admit that we are short of frequencies within the easily exploitable spectrum resources, and spectrum liberation, all by itself, is increasingly proving to be achievable only to a limited degree.

Current spectrum liberation endeavors at both public and private-sector levels must be augmented by policy efforts that promote spectrum sharing, along with efficient spectrum allocation policies. Moreover, the spectrum reserve still open to, and very much needed by, telecom operators can be properly utilized by exploiting unlicensed frequency bands, which have recently made WiFi use and traffic off-loading more practicable.

For SAMENA Council the subjects of spectrum and broadband growth hold a central position in its organizational agenda. To this effect, we believe, for broadband to grow at the required and desired levels for realizing the SAMENA region's digital and economic progress, much more than classical spectrum allocation and management should be done. There is a need to promote and develop a heterogeneous mix of systems that can work within a set of allocated frequencies on a dynamic, intelligent basis to accommodate the need for greater connectivity for both users and machines. Easier and comparatively cost-effective access to spectrum achieved through innovative spectrum solutions, such as dynamic spectrum sharing, will not only provide a lever for near-future economic growth, but would also facilitate a path for successful development of new networks, extending beyond 4G or even 5G.

SAMENA Council thus encourages regulatory authorities to promptly revisit and revise national spectrum strategies, build or seek help in building new spectrum propositions that do not require long approval processes, create environments that support spectrum sharing innovation from a futuristic perspective, and, ultimately, aim to create a sense of organization and abundance within the telecommunications as well as other sectors.

Yours truly,



Bocar A. BA
Chief Executive Officer
SAMENA Telecommunications Council



**H.E. Hamad Obaid
Al Mansoori**
Director General
Telecommunications
Regulatory Authority,
UAE

H.E. Hamad Obaid Al Mansoori currently holds the position of Director General, the General Authority for Regulating the Telecommunications Sector.

He was previously the Director General of UAE mGovernment, having held this position from April 2014 and the Deputy Director General of the General Authority for Regulating the Telecommunications Sector since May 2013.

Al Mansoori is amongst the eminent Emirati personalities who are endowed with the trust of the wise leaders which is illustrated in the nature of responsibilities entrusted to him in the positions he has held and the roles and responsibilities he has successfully accomplished.

Al Mansoori holds a Master's degree in Computer Science from Middlesex University, London.

Al Mansoori began his career in the year 1994 with his appointment as the Head of Development Department at Central Military Zone. Throughout his career, Al Mansoori has held leading positions in the field of Information Systems with several government entities; prominently with Dubai Police, General Directorate for Residency and Foreign Affairs, Awqaf and Minors Affairs Foundation, and Dubai Public Prosecution.

Some of the other important positions he held at the national level include: Director General for Mohammed bin Rashid Smart Learning Program and Director of Programs for National Portals.

Al Mansoori also holds the prestigious position of Chairman of the Emirates Institution for Advanced Science and Technology. He is a Board Member of Emaratech, a technical and management consulting company

He is the Chairman/President of the Information Systems at Dubai Police control room, a member of the Higher Committee for Information Systems at the Ministry of Labour, and the Chairman/President of the eLink project.



Q. The UAE leadership has implemented strategies and plans directed towards developing a sustainable environment with an overall advanced and integrated infrastructure. How would you evaluate the performance so far?

A. The UAE's telecommunications networks are among the most advanced in the world.

The telecommunications infrastructure in the UAE has undergone a tremendous update the last years as predominantly copper infrastructure was replaced by fiber optic connections running either all the way to the customer's premises (FTTH) or to the multi-tenant building (FTTB) connecting high speed inside building wiring. This means services up to 500 Mbps can be offered to residential and corporate customers depending on the maximum speed of the inside wiring of the building.

This network update has been done gradually, starting with Dubai and Abu Dhabi Island, the most populated areas of the country, directly followed by all other areas and as of today fiber based connections are available at almost all locations in the UAE with only a few exceptions.

The TRA is also very pleased with the way the mobile market has developed. We have two very competitive innovative operators with advanced networks offering relatively low prices by regional and international standards.

Q. How should the regulatory approach evolve to accommodate the rapid changes in technology and regional markets, such as the increased competition from alternative platforms and the emergence of new services?

A. It is important that the regulatory approach adopted by the TRA continues to properly reflect the level of competition in the market. For example, the emergence of aggressive competition for particular services from alternative platforms could warrant the removal of certain existing regulations intended to ensure the market derives competitive outcomes. This is because if a certain market is competitive, it should be capable of achieving competitive outcomes in the absence of competition regulations.

In terms of new services, any services that could cause potential harm to consumers may require regulation. It is therefore important that the TRA continues to review the market as it evolves to ensure that the regulations remain applicable for any new market conditions.

Q. TRA's Mobile Application Testing Lab has recently won the award at GISEC 2015? What are the key factors behind this success?

A. The Center of Digital Innovation (CoDI) recently won the GISEC IT Security Award in the category of "Best Endpoint and Mobile Device Security Implementation." Judging was based on the criteria of: Innovation, Improving Performance & Efficiency, Reducing Cost, Data Security Enhancement and Value Realization.

We believe the key factors, which resulted in the recognition of our success, were the automation of test procedures and the efficient, concise and timely reporting of actionable test results to our customers. These test results allowed our customers, UAE agencies implementing government services on mobile devices, to improve the security and quality of their applications, increasing customers confidence and boosting adoption of the resulting mobile government applications and services, all without incurring the significant costs of commercial laboratory testing.

Q. The UAE m-Government has recently launched an extensive campaign highlighting its key achievements. What impact m-Government will have on provisioning public services?

A. mGovernment will make life much easier. It is a combination of modern ICT and the distant vision of H. H. that will make this possible. Imagine a situation where the people of the UAE need a government service and they will be able to access it immediately from their mobile phones! No visit to government offices, no queues and most importantly no more leaves from work.

Providing services through mobile phones would definitely save public time and money. Most importantly, it would increase the efficiency of the public, thereby positively influencing the social and economic status of the country.

Another very important benefit of providing mServices would be reduction of dealing in cumbersome paperwork. Most services would need one-time registration; and this will eliminate the repeated need for submitting and filing identification papers and in some cases requisite licences every time someone needs a government service.

As of now, 96.3 per cent of services are accessible through mobile phones. 337 services from 41 federal entities can be accessed through mobile phones. Out of these, 171 services are for individuals, 62 are for businesses and 104 are for both individuals and businesses.

In the future, all services will be made accessible round-the-clock through smartphones, tablets and electronic kiosks. H. H. Sheikh Mohammed bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai tweeted on his official account: This phase of the smart transition was a success. Next, we must increase user satisfaction and raise usage to 80% by 2018.



Additionally, mGovernment is one of the most important facilitators of a sustainable smart city. A smart city has the potential to impact people's lives in almost all areas of life; from gaining bespoke services in vital areas of life such as education and health to generating own electricity and even selling the excess through a smart grid.

Q. What steps should be taken to promote and foster investments and growth in the telecommunications industry on a national and regional level?

A. Growth in the telecommunication industry will be driven by both consumer demand for telecommunications services, and continued investment in new technologies and services by suppliers of telecommunications services.

In order to drive consumer demand, service providers need to provide cost effective, high quality services. The TRA places a huge emphasis on achieving reasonable prices through its competition framework. For

example, the soon to be introduced bitstream access service is expected to encourage competition at both the price and service levels as for the first time, licensees will be competing with each other directly for fixed line customers regardless of their geographic location. The TRA also monitors quality of service levels and has the mandate to intervene where any issues are identified. Another important role of the TRA is to safeguard consumer interests. By ensuring the interests of consumers are promoted, the TRA facilitates consumer satisfaction, which is a driver of future demand.

In order for licensees to continue to invest in new services and technologies and to maintain their existing networks, the licensees need assurances that they can continue to operate profitably. To this end the TRA, among other things: has a strong competition framework designed to prevent anticompetitive behavior and any resulting foreclosure of competition; continues to ensure that any regulatory fees are reasonable; and continually reviews the regulatory framework to ensure that there are

no unnecessary regulations in place. Further, the TRA engages with all stakeholders and consults regularly to ensure that the regulatory framework is fully in line with best international practice and delivers the anticipated results for the UAE.

As a consequence of the TRA's approach to regulating the sector, the UAE licensees have invested in the latest technologies to roll-out cutting-edge networks. The UAE now has:

- The highest penetration of fibre to the home connections in the world. These fiber networks are used to provide triple-play services, high-speed internet access (up to 500 mb/s), high definition TV; and voice telephony services over a single fiber; and
- Highly advanced mobile networks, with coverage to 100% of the population, and which support voice, 3G and ultra-fast 4G (LTE) mobile data services.



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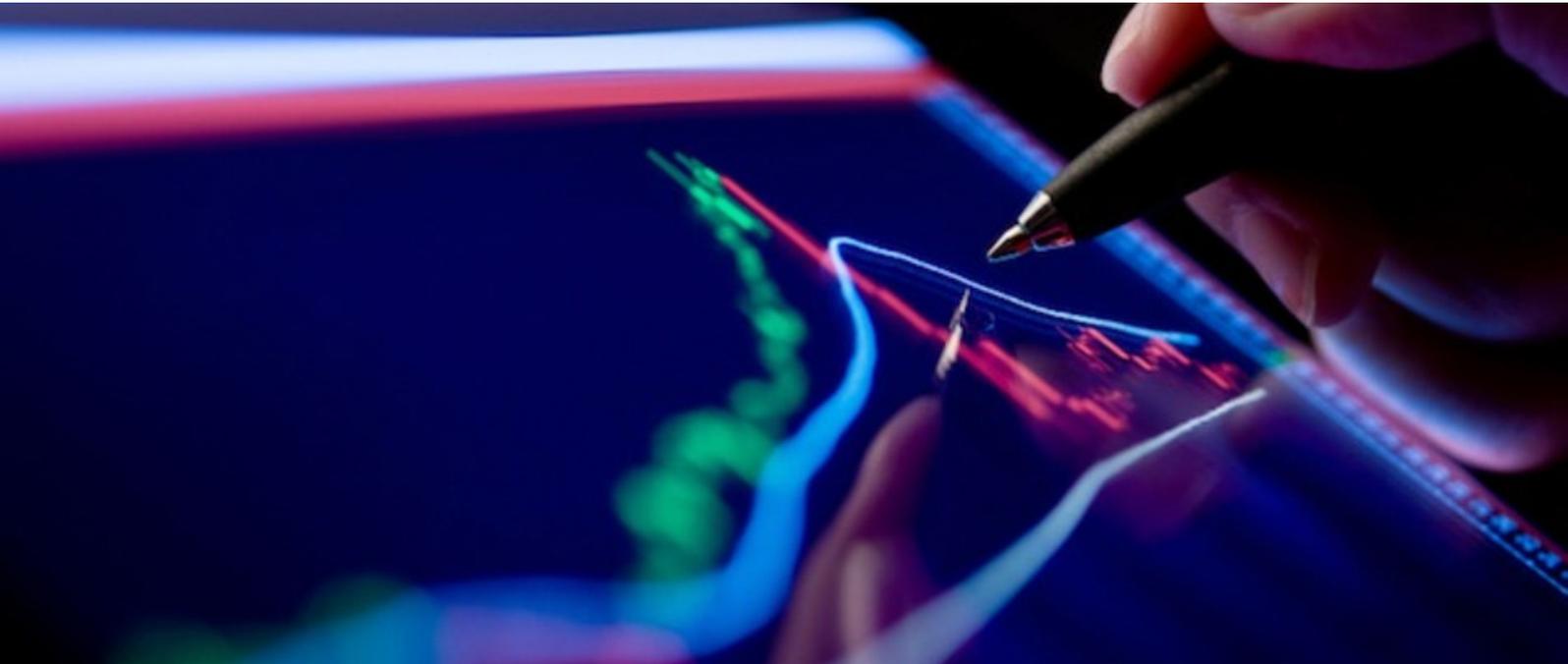
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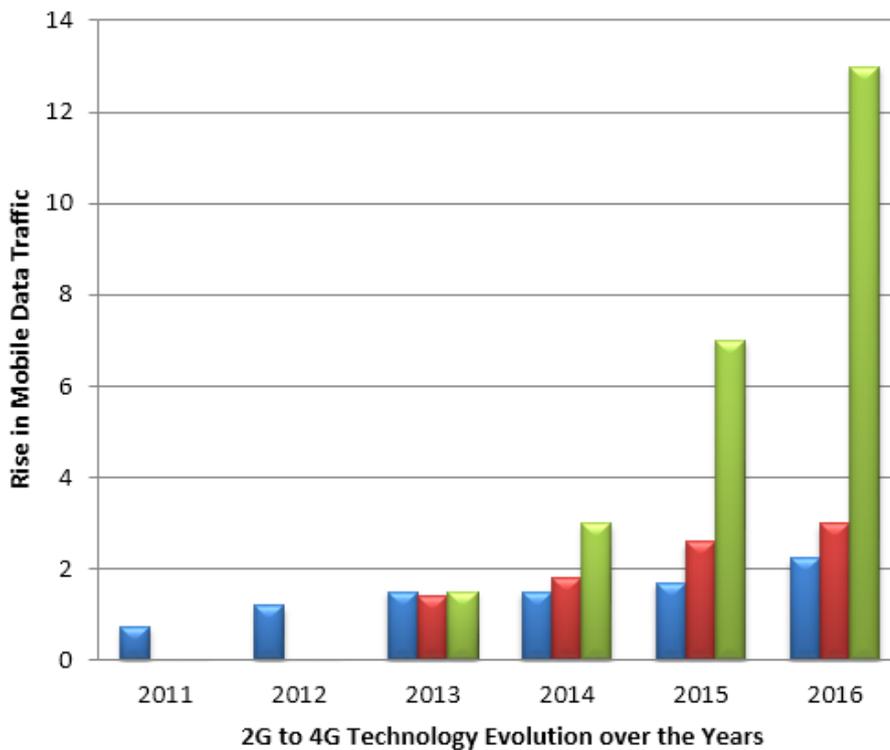
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REGIONAL PERFORMANCE

Mobile Networks: Supply & Demand



- Spectral Efficiency Improvements
- Spectrum Availability Issues
- Capacity Requirement



A General Trend in the Supply of Mobile Networks and Demand for Mobile Services

Over the past few years, 3G networks and increasingly 4G LTE networks, have been serving as an important tool for business growth for telecom operators in the SAMENA region as well as worldwide. Currently, 4G networks provide much better spectral efficiency as compared to earlier networks, as shown above. Improved spectral efficiency helps to accommodate more data traffic, but can also trigger a misconception on the actual demand for spectrum--which of course is expectedly very high and will continue to rise. Moreover, as the industry directs itself toward fifth-generation networking technologies, exclusivity of spectrum may be nearing its end, especially given the need for new, innovative ways to make best use of the spectrum available to the stakeholders.

As a matter of general understanding, spectrum deficit exists and this realization will soon invite more industry-wide discussions and collaborative engagements in the nearest future. Such deficit merits that utterly new possibilities be created on efficiently using and re-using the available spectrum, sharing spectral resources where and as much as possible, and considering the allocation of new spectrum bands for mobile services.

Theoretically speaking, a better way to make best use of the spectrum would be the deployment of more, smaller cell sites, which would use spectrum more efficiently and deliver larger bandwidth. However, for operators, this is economically impractical.

Moreover, while techniques to improve spectral efficiencies will continue to be developed, in the context of 5G, the focus will be more on adding additional bits per Hertz per cell area, that is, best utilization of available spectrum through flexibility and dynamic allocation, as compared to simply improving the bits per Hertz requirement in the current scheme of things. These are measures that the industry is taking to deal with emerging spectrum requirements. However, it is integral that policy-makers exercise a similar level of commitment and forward-thinking in making more spectrum physically available to meet digital agenda needs of tomorrow.

Regardless of whether spectral efficiency is improved or whether improved spectrum utilization is achieved, the need for additional spectrum remains dire.



MEMBERS NEWS

MEMBERS UPDATES

PTCL Ranked as Most Preferred Broadband Operator in Pakistan

Pakistan Telecommunication Company Limited (PTCL) has been ranked as the number one broadband operator in Pakistan and also the fixed line telephony service provider. This survey was revealed by the Best Buy Award research survey conducted by the Swiss organization ICERTIAS. ICERTIAS— International Certification Association— supports consumers in finding better quality products and services on the market which are deserving of their attention and their money. It also measures consumers experience, opinion, and perception in terms of best value for money. Customers in Pakistan have ranked PTCL Broadband internet as their most preferred choice. The Best Buy Award survey measures customer experience relative to price-quality ratio and best value for money as PTCL always offers amazing offers to its customers. The research conducted in Pakistan regarding best Broadband Operator include about 50 different non-economic and economic categories in sectors such as retail, food, telecommunications and finance etc. PTCL is the largest ICT services provider in Pakistan, including fixed line voice telephony, broadband internet, digital television and corporate solutions for organizations. The company

has revolutionized the broadband ecosystem of the country by providing high-speed fixed and wireless broadband services at affordable rates nationwide. It manages and operates around 2000 telephone exchanges across the country, providing the largest fixed-line network.

du successfully trials Network Function Virtualization (NFV) in the UAE

du announced that it has successfully completed customer premises equipment virtualizations trials in the UAE. When commercially rolled-out in future, CPE virtualization is expected to provide an enhanced service whilst optimizing OPEX and CAPEX costs for residential and enterprise customer in addition will equip du to offer these services within a much shorter time frame. Virtualized CPE (vCPE) technology offer the ability to service providers to lower the cost of end premises equipment and reduces the complexity of these devices while hosting the complicated services in the du cloud. The vCPE trials reiterate du's position as a market innovator and a provider that wants to have services which disrupt the market in consumer and enterprise data communication space. This permits du to offer a "plug & play" solution for the anticipated demand for virtualized



solutions in future, making service activation achievable in matter of few hours. The service simplifies the provision of Software Defined Networking (SDN) driven service. Jasim AlAwadi, Vice President - Network Infrastructure & Services, said: "We are delighted to be the first in the region to successfully complete the trials of this promising new technology. Network Function Virtualization (NFV) - and in particular vCPE is an exciting emerging new growth area in our existing portfolio and is critical to our future of consumer and enterprise growth plans and potentially introduce us to the OTT market, which will entail that we can provide its services over other service providers infrastructure like Google and Amazon. The introduction will give us the ability to provide multiple services over a virtual network. This is a step closer to an application aware of network" vCPE seamlessly extends the benefits of a programmable network and application aware abstraction to branch locations and homes, paving the way for a dynamic and more responsive operational environment. With this technology CPE costs will lower and the service provider will have the ability to offer a wider variety of services through a customer portal, which in turn improves customer experience. All the services required by residential or Enterprise customers will be ordered online and pushed seamlessly to the customer. SDN with NFV seamlessly extends the benefits of policy-driven network automation and application-friendly abstraction to branch locations, paving the way for a dramatically more responsive operational environment. Virtualization speeds up the deployment of new sites by a factor of ten, while reducing operational expenditures by over fifty percent.

Sudatel Telecom Group invests 45 million US\$ in its Data Center

Recently inaugurated, Sudatel Data Center is considered as one of the best in kind in Sudan and one of the top in Africa. With the cost of 45 M \$, the specifications of this Data Center are designed of the highest standards "Tier IV", most secure and reliable in all of North, East and West Africa. Sudatel Data Center has been built to provide the whole set of Data Center Services from IaaS (Infrastructure as a Service),

PaaS (Platform as a Service) and SaaS (Software as a Service). The first stage of Sudatel Strategy is to provide IaaS to the corporate customers; the services include Co-location, Dedicated and Virtual Services, SAN Storage, backup and restoration, with a set of additional services as load balancing, monitoring, Anti-Virus, Intrusion Detection and firewall provisioning. These Data Center Services accompanied with Sudatel Corporate Portfolio, will be able to satisfy corporate turn-key Solutions, to enable corporate to focus on main business, to reduce TCO and CAPEX. Corporate, in a one-stop-shop will be able to rent their IT needs via Data Center, connect their sites, and plug into the Internet, enjoy fixed and mobile data and voice packages, as well as M2M services. Sudatel customers in Africa will also benefit from Data Center services. They will be able to access Infrastructure services from a neighboring country. Sudatel's African subsidiaries can benefit from these services introduced to broaden its corporate portfolio and create higher penetration to satisfy needs in their existing markets as well as seeking opportunities in new African Markets. Sudatel Data Center will satisfy growing market needs and create a new revenue stream, which will be part of Sudatel Group's rich, varied Service Portfolio. The main sectors benefiting from the service in Sudan include the Banking sector, VAS and content providers, Government, Companies and SMEs.

Qualcomm bolsters fixed-line business with Ikanos buy

\$47 million deal gives Qualcomm's Atheros unit access to xDSL, G.fast technology. Qualcomm's Atheros subsidiary agreed to acquire fixed-line chip maker Ikanos, extending the company's reach into the carrier broadband market. Under the terms of the deal, Qualcomm will launch a US\$2.75 per share tender offer for all of Ikanos' issued and outstanding stock, which puts the deal's value at \$46.97 million. The acquisition extends Qualcomm's reach into the home gateway market by equipping it with a portfolio of broadband access and modem solutions that work with a broad array of fixed-line technologies. These include VDSL2 and G.fast chipsets for customer premises equipment (CPE) and central office infrastructure, among others. "Qualcomm Atheros

has always viewed the home gateway as the enabler for consumers to not only access the Internet for browsing and downloading content and video streaming, but also as the hub of the Internet in the home for a variety of reliable and high quality services," said Rahul Patel, senior vice president and general manager, connectivity, Qualcomm Technologies, in a statement. "The combination of Qualcomm Atheros' broad home gateway IP portfolio, including WiFi, powerline, small cell, and Ethernet switch technologies, and Ikanos' advanced wired modem technology, is designed to create a complete solution for a wide range of home gateway products to better serve the carrier segment," he said. Ikanos' board of directors has unanimously approved Qualcomm Atheros' offer and recommended it to shareholders. "Qualcomm Atheros and Ikanos have a long history of collaboration in the carrier space and share a common vision for the connected home. Bringing the two companies together enables Qualcomm Atheros to accelerate implementation of its strategy for the connected home, and to move the home gateway forward as a key enabler for new carrier applications and services," said Ikanos CEO Omid Tahernia. The transaction is expected to close before the end of the year, at which point Qualcomm Atheros will take on Ikanos' debt.

SLA Mobile Partners with Arabian App Store to bring Carrier Billing to Customers

SLA Mobile has partnered with the Arabic App Store, GLWAN, to facilitate Carrier Billing with Middle Eastern Mobile Operators. Established in 2006, GLWAN enables Mobile Operators in the Middle East the opportunity to offer subscribers a diverse range of content including news, sport and entertainment, all available through a controlled app store. Payments through the app store are facilitated through Mobile Payment solutions like Carrier billing, also known as Direct Operator Billing. Amelia Power, Head of Sales and Marketing at SLA Mobile said, "GLWAN's experience in the Middle East and their unique alternative to traditional app stores enables Mobile Operators the opportunity give subscriber's premium, in-demand content to consume via secure payment solutions like Direct Operator Billing." Direct Operator Billing allows users to pay for digital goods and services by charging



the amount to their monthly phone bill or prepaid credit. Direct Operator Billing does not require bank account or credit card information and as a result, is one of the safest payment methods online. AbdulAleem Hussein, Team leader of Apps and Marketing development at GLWAN commented, "By partnering with SLA Mobile we will gain access to additional Mobile Operator subscribers who will be able to consume content via Direct Operator Billing, we are continuing to deliver a competitive, operator controlled alternative to the traditional app stores." SLA Mobile will initially connect GLWAN to Zain subscribers with further operator roll-outs in the future.

Ciena closes acquisition of Cyan

Network specialist Ciena has completed the acquisition of Cyan, a global provider of next-generation software and platforms enabling open, agile and scalable software-defined networks (SDN). Under the terms of the agreement, Ciena acquired all outstanding shares of Cyan common stock in exchange for approximately \$33.6 million in cash and 10.6 million shares of Ciena common stock, bringing the total amount to \$490 million. "Ciena and Cyan make a great combination for our customers as they transform their networks with Web-scale technologies to go beyond delivering capacity to create capabilities on demand," said Gary Smith, president and CEO of Ciena. "We believe this acquisition advances our strategy to deliver a complete on-demand solution for virtualised networks and services, and greater control and choice for customers in an open ecosystem." Aiming to make the most out of the current fibre networks in the Latin American region, Ciena is working on virtual solutions, to which Cyan's know-how will contribute, especially through its Brazilian operation. Ciena will unify the software activities of both companies under a single brand and set of resources known as the Blue Planet division. This will focus on helping customers automate services across both physical and virtual domains, in order to drive greater competitive advantage, create new revenue opportunities, and lower costs associated with hardware and operations. Complementing Ciena's network control and software

technologies, Cyan adds multi-vendor network and service orchestration and next-generation network management software. Further strengthening Ciena's leadership in packet-optical, Cyan also brings a growing metro packet-optical business with a complementary base of key customers.

Etisalat launches fully managed 'Business WiFi' for small medium businesses

Etisalat announced the launch of its fully managed wireless connectivity solution - Business WiFi - enabling business customers, their employees and guests to have wireless access with high speed broadband. Mobile applications, growing BYOD trend within offices and the need for internet access to drive customer footfall across retail and hospitality sectors continues to grow at a rapid pace. Smartphones and tablets are poised to become the dominant tools of the business world, adding pressure on IT departments to ensure high availability of secured wireless access at all times.. At the same time it is essential to ensure that wireless access is enabled for guests and customers which is in compliance with regulatory standards. Etisalat's new and first-of-its-kind Business WiFi is a cost-effective solution that reduces upfront investments and delivers fully managed and secured wireless access for businesses - small, medium or large. It is a fully reliable infrastructure, which ensures scalability and reduces operational challenges, meeting the connectivity requirement of employees and customers mobilizing within the business environment. Salvador Anglada, Chief Business Officer, Etisalat, said, "The changing competitive landscape in the UAE is not only increasing the demand for bandwidth and seamless connectivity, but also increasing security concerns for SMBs and large enterprises. Keeping pace with the advances in enterprise mobility and access infrastructure technology is becoming difficult for IT departments to manage and support 24x7. "To cater to this business need, and in compliance with the UAE's regulatory requirement, we are excited to launch our new Business WiFi proposition, which is an operator class managed WiFi solution with segmented offers for businesses of all types and sizes. It

is an end-to-end solution that offers fully automated 24X7 protection and requires minimum IT involvement, freeing up our customers to focus on their core businesses." Etisalat's Business WiFi solution offers bundled add-ons specifically focused on varying industry verticals such as hospitality, retail, banking, healthcare and government. It provides 24x7x365 service from Etisalat's Network Operations Center (NOC). The state-of-the-art infrastructure offers comprehensive service level agreement (SLA) supporting multiple vendor equipment. The service is PIAP (Public Internet Access Providers) compliant, meeting the telecom regulatory requirements of the UAE.

Viva Kuwait Q2 net profit rises 8%

Mobile operator Viva Kuwait reported an 8 percent rise in second-quarter profit. The firm, an affiliate of Saudi Telecom, the Gulf's No.1 telecom operator by market value, made a net profit of 11.22 million dinars (\$37.05 million) in the three months to June 30, up from 10.41 million dinars a year earlier, it said in a bourse statement. Second-quarter revenue was 67.87 million dinars, against 58.11 million dinars a year ago.

Turkcell, Huawei sign MoU on 5G cooperation

Turkcell has signed a memorandum of understanding (MoU) with Chinese technology vendor Huawei to strategically cooperate on the development of 5G technology. According to a press release from the equipment provider, Turkish President Recep Tayyip Erdogan met with Huawei CEO Guo Ping on July 30 during an official visit to Beijing, and was briefed on Huawei's overall operations and the company's consumer device market share in Turkey. Erdogan commented: 'This MoU marks an important step in our cooperation, which I believe will grow even closer and stronger in the future,' while Ping added: 'In the future, we will continue working closely with the Turkish ICT industry to help the country implement its national digital strategy - Vision 2023.' As previously reported by TeleGeography's CommsUpdate, last month Turkcell and Ericsson also signed an MoU to collaborate on 5G research and



development, in order to develop an understanding of 5G requirements and deployment scenarios.

Orange Jordan becomes the first operator to launch 4G/ LTE roaming services

Orange Jordan has announced the official launch of its 4G/ LTE data roaming services with the first two international roaming agreements signed with Saudi Operators. Under this agreement, both Orange Jordan and the customers of Saudi operators will have access to 4G/ LTE roaming services when traveling to either nation, enjoying the many benefits of uninterrupted, high-speed internet of up to 60 Mbps on their mobile devices. The service makes it possible for travelers to easily stay in touch with families and loved ones, sharing photos and videos seamlessly, and accessing large files for business productivity. Orange is currently in the process of signing similar 4G/ LTE roaming agreements with Orange France and Mobistar Belgium. During H2 2015, Orange Jordan plans to deliver 4G/ LTE roaming services within the top 20 destinations in the Middle East, Asia, Europe and America, signing anywhere between 20 and 25 bilateral partnerships by year-end. During 2016, the operator will continue expanding the coverage of the service to target as many locations as possible around the globe. "The launch of our 4G/ LTE roaming services falls in line with our long-term efforts to deliver an unmatched customer experience, which is the essence of our recently-launched five-year strategy, Essentials 2020," explained Orange Jordan's CEO, Jean-Francois Thomas. "In this context, we are proud to be the first operator to allow our customers to experience unprecedented broadband speeds when traveling for either business or pleasure".

Yahsat signs new service partnership with ClickSat in Pakistan

Yahsat, the Abu Dhabi-based satellite operator, today announced that it has signed an agreement with new service partner Clicksat to distribute its internet broadband service, YahClick, to users across Pakistan.

The partnership signing follows the official YahClick Pakistan launch on Monday 29th June. Users will now be able to instantly connect to satellite broadband anywhere in the country using a compact satellite dish and modem, without the frustration of congested networks, including areas where terrestrial infrastructure is currently not available. YahClick's broadband service will be delivered by Clicksat offering in country technical, operational and customer care. Clicksat, a Marketing Company of REDtone Pakistan, is one of the fastest growing satellite solution companies in Southern Asia, deploying over 300 VSATs in last year. Its services ensure seamless integration and stable solutions to offer the best possible service to the customer. Located in four major cities of Pakistan - Karachi, Lahore, Islamabad and Multan - Clicksat is able to serve any part of the country with faster turnaround times. David Murphy, Chief Commercial Officer, Yahsat said: "YahClick has already enjoyed great success across the Middle East, Africa Central and South West Asia, with notable installations in banking, education and public services, and with the ever growing demand for widespread access to reliable broadband internet, we are delighted to partner with Clicksat to extend our reach and enjoy similar successes in Pakistan". He further commented: "Clicksat bring critical knowledge of the market and customer requirements, so their expertise coupled with the flexibility, reliability and ease of installation that YahClick offers, is a powerful combination to roll out this new service." Nadeem Younes, Chief Executive Officer, Clicksat said: "In the past, satellite broadband internet connection was regarded as a luxury for the tech savvy people, however it is now critical technology for anyone requiring fast and reliable broadband services. Economic growth in rural communities is being hampered because there is little or poor access to the internet, and YahClick addresses these issues by being a cost effective, and versatile product that suits consumers, SMEs and corporations requiring reliable, fast internet access in untapped and underserved areas of Pakistan. We are delighted to be Yahsat's partner in bringing internet access to everyone in our country who needs it."

Vodafone slowly turning it around as Europe decline slows

The mobile landscape is going through a notable shift. Five years ago T-mobile combined with Orange to create EE, which is now holding hands with BT. Last year Dixons Carphone proving the doubters wrong with a merger that has been notably successful, even more so since the demise of Phones 4U 10 months ago – once a beacon of independent mobile phone retail. It's a competitive market but there is hope for Vodafone yet. The phone giant is beginning to show signs of recovery in Europe, especially in the UK, where it is back in the black. The phone giant had a better three months to 30 June. Reported group revenues fell 0.9% to £10.1m, though organic revenues rose 3.3%. While European figures were not as strong, Vodafone said it had made a "continued recovery". There is less "contract churn" across all major markets but data usage is growing "significantly", with 18.9m customers using 4G in Europe now. Chief executive Vittorio Colao said: "We have made a good start to the year. Our emerging markets have maintained their strong momentum and more of our European businesses are returning to growth, as customer demand for 4G and data takes off. We continue to hit our Project Spring build milestones and customers are beginning to value the improvement in service that is resulting: contract churn in Europe is now falling and mobile ARPU trends are stabilizing in a number of key markets." He added: "Our other key growth areas - unified communications and enterprise - are performing strongly, benefiting from the increased capabilities and footprint that our higher levels of investment are delivering. However, our markets are, as always, highly competitive and we therefore have to remain very focused on efficiency, cost control, and excellent value and service to customers, while continuing to deliver a good return for shareholders."

Cisco sells connected devices unit to French Technicolor for \$602 mln

The deal will also translate into double-digit earnings per share accretion at group level starting in the first full year



after closing, it said. French media and entertainment technology group Technicolor said on Thursday it has signed an exclusive deal with Cisco to buy its customer premises equipment business for 550 million euros (\$601.65 million) in cash and stock. Following the transaction, Technicolor's Connected Home segment should reach adjusted EBITDA in excess of 200 million euros by year-end 2016 and 8-9 percent adjusted earnings before interest, taxes, depreciation and amortization (EBITDA) margin by 2017, Technicolor said in a statement. The deal will also translate into double-digit earnings per share accretion at group level starting in the first full year after closing, it said. Under the terms of the deal, Cisco will receive approximately 413 million euros in cash and about 137 million euros in newly issued Technicolor shares, subject to certain adjustments provided for in the agreement.

Huawei unveils new 4.5G solution

Huawei has launched its new TDD+ solution in collaboration with its industry partners China Mobile and

TDD+ technology can provide an xGbps-level user experience, uncover more business opportunities for carriers and maximize their return on investment (ROI). The Chinese company conceived TDD+ to offer a solution for service providers to be in a position to meet increasing mobile traffic demands. This solution is compatible with existing 4G networks. TDD+ also increases spectral efficiency and system capacity by using high-performance Cloud-baseband chips and features such as distributed MIMO (DMIMO), massive CA, High-Order modulation, High Order MIMO, and multi-user 3D beamforming. As a key 4.5G solution, TDD+ technology can improve the user experience and enables wireless services to enter the xGbps era. Based on existing 4G technology such as 4T4R and 8T8R, TDD+ can enable the efficient use of large and heavily composed multiple-antenna systems networking through software upgrades and the CloudBB technology, Wang said. Huawei currently leads the TDD-LTE market, with 40 out of 54 deployed networks around the world. Wang said that Huawei has shipped 50% of total TDD-LTE base stations globally. According to Huawei, China and Japan will see the first wave of TDD+ networks. However, the Chinese firm said that this new technology could be implemented by any operator with TDD spectrum. There are currently 54 TDD networks in 34 countries. In related news, 3 Hong Kong, the mobile communications division of H u t c h i s o n

Telecom Hong Kong Holdings, and Huawei have announced the successful demonstration of an end-to-end FDD and TDD LTE-A commercial network in Hong Kong using carrier aggregation (CA) technology and terminals chip-powered by Qualcomm Technologies.

Syniverse Identifies \$6 Billion Opportunity for Sponsored Mobile Usage in Asia

Results of a new Syniverse-commissioned primary research study in Asia find that consumer brands and mobile service providers in this region could unlock an annual revenue opportunity of as much as \$6 billion by 2019 through the sponsorship of mobile data services. In the sponsored-data model, companies sponsor usage for specific content on behalf of subscribers of various mobile service providers, allowing subscribers to access this content without being charged for the usage. To better understand Asian consumers' receptiveness to sponsored-data offerings, Syniverse commissioned On Device Research to conduct a survey among 3,500 people in seven countries across Asia. Among the major findings, the survey results reveal that consumers are generally willing to accept the branding of content, advertising and promotional material in return for free data:

- Sixty-two percent of respondents said they would accept the branding of content and advertising in return for free data.
- Forty-nine percent of respondents would be willing to accept coupon offers from sponsors.
- Respondents also would be willing to accept offers from a wide range of sponsoring organizations, with 42 percent saying they would accept offers from entertainment providers.
- Thirty-one percent of respondents would be willing to accept offers from bars, restaurants and cafes.
- Twenty-nine percent would be willing to accept offers from travel companies.

"Content providers, mobile service providers and consumers have been stuck in a no-win situation when it comes to mobile data usage," said Mary Clark, Chief Marketing Officer, Syniverse. "Consumers want to use more data along with richer mobile engagement, and operators and content providers are missing out on the revenue that this usage could deliver. The results of this study underline the business case that should motivate operators and their partners to consider sponsored-data plans as a way to drive revenue as well as consumer engagement." Syniverse worked with economists at Strategic Economic Engineering Corp (SEEC) to analyze the primary research data from the study in parallel with secondary analyst data and market forecasts, and determine the potential market value of



Japanese telecoms operator SoftBank. The telecom equipment manufacturer announced the new tech at Mobile World Congress Shanghai 2015. Huawei's Wireless Network Product Line President David Wang told reporters that the new solution will be commercially available in 2016. He added that both China Mobile and SoftBank will carry out trials before the end of this year. Wang also said that Huawei will welcome additional partners to help promote the TDD+ industry chain. Huawei said that the



\$6 billion a year by 2019. "Our analysis shows that the sponsored-data model has the potential to substantially affect consumers' behavior favorably for all parties involved," said Sam Brown, Founder and CEO, SEEC. "The key to unlocking this potential, however, will be the ability of sponsors and operators to work together to hone highly personalized offers that meet individual user expectations and requirements for engagement." Clark added, "Not only does our study show consumers' latent appetite for data and services, it also shows how other players could and should be involved. The message is clear: Sponsored data offers considerable benefits for all involved, enabling content providers to enjoy increased use of their services, providing mobile operators with a new source of revenue, and offering consumers cheaper access to content." Syniverse's study builds on a number of recent accomplishments in Asia that have enabled the company to gain expertise in how consumer companies and operators can join forces to address opportunities for sponsored data. In May, Syniverse announced an application-to-person messaging solution for Bigo, a mobile service provider in Singapore that uses its app to offer free voice calls and messages to consumers worldwide. In 2014, through its acquisition of mobile service provider Aicent, Syniverse greatly expanded its network and infrastructure capabilities for working with consumer companies in Asia. That same year, Syniverse helped the China-based Internet services company Tencent deploy a mobile messaging platform for the consumers of its integrated shopping, gaming and entertainment Web portal, and Syniverse also helped optimize mobile customer engagement for Amazon China.

Additional Survey Results

Further results from the Syniverse study uncovered a number of other insights about Asian consumers' receptiveness to sponsored data. Access to sponsored-data plans could significantly affect consumers' content consumption and open a substantial revenue opportunity for sponsors and mobile operators:

- Data-intensive content, such as subscription video services (which are currently the most costly services to access), would see increases in usage of 40 percent.

- The same access would increase consumption of subscription-based music services by 25 percent.
- Other services expected to see moderate increases include free video services, voice and video calling services over data networks, and online games.
- Consumers are most willing to accept sponsorship for reduced or free data costs from the following types of sponsoring organizations:
 - Entertainment providers (42 percent of respondents)
 - Bars, restaurants and cafes (31 percent of respondents)
 - Travel companies (30 percent of respondents).
- Consumers are also most willing to accept sponsored branding or advertising in order to gain free access to or use of the following:
 - Websites, for mobile Internet browsing (43 percent of respondents)
 - Social networking applications and services (41 percent of respondents)
 - Free Web-based video services (38 percent of respondents).

Google is helping build an Internet of Things campus

Google is helping Carnegie Mellon University in Pittsburgh become a testing ground for Internet of Things solutions through a \$500,000 grant and access to unreleased Google IoT technologies, according to the Pittsburgh Post Gazette. The plan is to outfit many of the campuses everyday items, ranging from coffee pots to bus stops, with wireless sensors to collect data and provide reactionary features. The university and city officials hope the technologies deployed at Carnegie Mellon will eventually be used citywide. One of the project's primary goals is to create a platform that solves the interoperability problem by enabling all IoT-equipped devices on campus to communicate with each other. For example, an internet connected alarm clock could talk to an internet connected coffee machine to tell it when to have coffee ready by. The current lack of interoperability among devices is an \$8 trillion problem, according to McKinsey.

McKinsey's recent IoT economic value-add forecasts states that if the IoT interoperability problem was solved, the IoT would add \$11 trillion in 2020 to the global economy through increased efficiencies, such as savings on energy costs and infrastructure improvements. If it is not solved, McKinsey estimates the economic value of the IoT will be \$3 trillion.

Fujitsu and Microsoft To Revolutionize The Manufacturing Through IoT Innovation

At the Hannover Messe event, Fujitsu Limited and Microsoft Corp. announced their collaboration to bring IoT Innovation and operational excellence to manufacturing with the help of Fujitsu devices powered by Windows 8.1 Pro, the Internet of Things (IoT) services of Fujitsu Cloud A5 for Microsoft Azure and the Fujitsu IoT/M2M (machine-to-machine) platform. The demand for more efficient services in the manufacturing sector has led to a massive increase in the number of M2M connections in this space. According Verizon's 2015 State of the Market report, there was 204% year-on-year growth in M2M connections in the manufacturing sector and represents their fastest growing M2M sector. Both Microsoft and Fujitsu have stated that the solution has a range of different applications and can be tailored to a wide array of different sectors, which in turn will give both companies experience of other markets. This move is not the first by either company into developing IoT/M2M solutions. It follows Fujitsu's IoT innovation drive to expand its core data centers in Japan in order to accelerate demand for its cloud services. For Microsoft, this is one of two recent IoT innovation collaborations, the other being its partnership with Miele, the manufacturer of domestic appliances, to produce a new breed of smart appliances, following a proof-of-concept study. Having recognized a solution was needed to optimize processing by both machines and humans, Fujitsu brought together its Eco-Management Dashboard, the IoT/M2M platform, Microsoft cloud services and Windows tablets in a way that could enable managers, engineers and scientists to improve product quality, streamline systems and enhance functionality while reducing costs.



Qualcomm Targets The Internet of Things Sector Full Force

Leading mobile chipmaker Qualcomm recently provided guidance on how big the Internet of Things (IoT) sector is for the company. The company said it made \$1 billion in revenue last year on chips used in a variety of city infrastructure projects, home appliance, cars and wearables. There were 120 million smart home devices shipped with Qualcomm chips in them last year. In addition, there are 20 million cars equipped with its chips, and Qualcomm silicon is used in 20 types of wearable devices. Even though the company makes the most money selling the wireless chips and processors for a large share of the smartphone market, it expects about 10% of its chip division revenue to come from non-smartphone devices in 2015. In the semiconductor and telecom industries, along with Qualcomm, other major IoT players are AT&T, Cisco, ARM Holdings, Intel, and Samsung Electronics. Qualcomm doesn't break out its IoT revenue (like Intel does) so we don't know the precise size of the company's IoT offering right now. But that doesn't mean it's not positioning itself in the space. In this article, we discuss the growth potential of the IoT segment and how Qualcomm is adapting its business model to accommodate this major trend. Our price estimate of \$71 for Qualcomm is marginally higher than the current market price.

Mobily's 4G Network Records 270% Growth Rate During Ramadan 2015

Ethiad Etisalat Mobily's 4G network has achieved a growth rate exceeded all expectations during the holy month of Ramadan, where the network recorded 270% growth rate in the average of transferred data compared to Ramadan of last year. The high capacity rates for the 4G reflect the success of Mobily in planning its network in a distinguished way that meet the needs and requirements of its customers, even if those needs exceeded expectations. Mobily explained that it has succeeded in doubling the coverage rate of 3G network, as well as adding new capacity to network through applying U900 technology in

the main cities. This technique works to increase the coverage area through the use of low frequencies enables 3G signal to penetrate strongly within the communities and improve the quality of service to all customers. On this occasion, Engineer. Omar Al Omar, Senior Executive Officer, Network Design, said that " we take the responsibility to increase the capacity of Mobily network in line with customer's requirements, and we are fully aware that the network infrastructure is the backbone that enables us to continue the company's operations successfully." Al Omar added "customers' experience represents one of the important pillars that come on top priorities; therefore we were so keen to use U900 technology and bring many technical developments that improve the customer experience in Mobily" It is noteworthy that Mobily is working to intensify all efforts to cover the rest of the populated areas of the Kingdom with 4G network LTE-4G, in addition to enhance it in areas that have been covered earlier.

STC launches accelerator and incubator

Between August and September, Saudi Telecom Company (STC) will launch InspireU, an accelerator and incubator aimed at developing young ideas in ICT and digital innovation. The new accelerator isn't operational yet but it's already received so many applications it's had to close the process early. Ten teams will be shortlisted to join InspireU's two-day bootcamp event. The winners will participate in a six-month program to develop their projects and prepare for fundraising. "Once the program starts teams are given \$20,000 in cash, paid in installments linked to milestones to ensure progress," said InspireU program director Victor Kiriakos. He is also heading the Innovation Program at Afkar.me, an incubator based in Dubai and Riyadh. Startups will receive services such as office space, access to STC's network of marketing, communications and sales executives, its database of customers, market access, and mentorship. The fund won't be taking equity in all the startups they invest in. "We take equity on case by case," said Kiriakos. Although the program is country-agnostic, startups must be willing to travel to Riyadh and stay there for

six months. InspireU will organize all visas and licensing. "We're a lot more relaxed," said Thamer Alrayes, director of STC Digital Innovation, when asked about the quality of startups accepted. "It's too early to ask for a minimum viable product. Just an idea proposition."

Connecting Saudi entrepreneurs to Europe

As part of its incubation program, InspireU will offer an international exchange program where selected teams will join different programs in Europe, such as Wyra, launched by Spanish telco Telefónica. "They will give them more access to the innovation and the ecosystem there and how startups get incubated," Alrayes said. Startups who want to be part of this exchange program should have a highly scalable product and a good team, Kiriakos added. "We send the best." InspireU will focus only on the digital and the ICT sector, rather than oil and gas, clean tech and waste management as KAUST's new Innovation Fund is doing. "It's not part of our DNA," Alrayes said.

Bridging funding gaps

According to Wamda Research Lab, 68 percent of entrepreneurs in Jordan, Lebanon and Egypt fail to receive follow-on funding. Lack of follow-on funding isn't limited to these countries. "There are many reasons for not securing angel rounds," said Kiriakos. "Some startups are not good enough but also investors don't take a lot of risks [...] We hope to generate early traction to startups, so when they go to the angel investors, this will improve their chances and their metrics. We're trying to bridge that gap." Even though STC has its own fund, STC Ventures, the later focuses on growth-stage startups with investments of up to \$5 million. InspireU will provide seed funding up to \$250,000. However, Alrayes says STC Ventures might get involved the incubator. "It will dedicate some [of its capital] to the early stage startups and will be a vehicle with equity stakes." Although there is no secret to entrepreneurial success and resources aren't enough to get a startup off the ground, entrepreneurs must build a "well-rounded team" as Kiriakos put it, mixing members with technical and business development backgrounds. They should also embrace failure as it is still not accepted in Saudi Arabia and the Arab region as well, Alrayes added.



▼ REGIONAL NEWS

REGIONAL UPDATES

Ooredoo awards Nokia small cells rollout deal

Finland's Nokia Networks has won a deal with Ooredoo Qatar to deploy its small cells in coverage 'hotspots' across the Middle Eastern country, following a trial of Nokia's 4G LTE and 3G small cell solutions in high-traffic indoor and outdoor locations in the Qatari capital Doha, including the historic Souq Waqif area. Nokia 'Flexi Zone' small cells are installed in strategic locations such as restaurant rooftops to ensure additional capacity, coverage and better network availability, as well as reduce latency. The Flexi Zone solution is intended to complement Ooredoo's 4G macro network, supporting enhanced voice and data services in the most crowded and demand-heavy indoor and outdoor areas. Alongside the small cell equipment, the agreement includes the Nokia 'NetAct' system for consolidated network management across small cells and the macro network layer. Previously, Ooredoo Qatar selected Nokia Networks as sole supplier to build its LTE radio and core network in 2013, and the technology partners' joint press release says they 'have a shared vision of bringing the latest mobile broadband innovations to residents of Qatar through 5G and beyond.'

Saudi Arabia ranks among the best for mobile security

A report published by Aruba Networks, an HP company, has pinpointed the most at-risk nations based on a survey of the mobile security habits of 11,500 workers in 23 countries. It finds that the Kingdom of Saudi Arabia and established Western markets display by far the world's safest employee behaviors when it comes to using mobile devices at work, and conversely, emerging Eastern regions rank the lowest for mobile security practices. Saudi Arabia among the Best: Just under a quarter of Saudi workers (23%) admit to having lost personal or company data through the misuse of a mobile. This is comparable to the US (24%) and much better than the UAE (48%). Risk-adversity in UK: In the UK, only one in ten (12%) do not password protect their work smartphone. In Malaysia, that figure is nearly three in ten (29%). Higher device sharing in China: The Chinese will give their work mobile device away on average 19 times per month, whereas the Swedes just seven. Overall the report establishes a clear East/West divide with regard to mobile security. Saudi Arabia, Sweden, the USA, Canada, the UK and Norway are found to have the safest employee habits while Malaysia, Thailand, South Korea, China and the UAE came bottom of the list. The findings, included in Aruba Networks'



Running The Risk report, names the '#GenMobile' demographic as a major driver for more pro-risk behaviors, with the younger, mobile-savvy workers often prioritizing productivity over traditional security concerns. Ahmad Enaya, regional technical manager, Saudi Arabia, Egypt and Levant at Aruba Networks, said: "It is good to see that Saudi Arabia ranks among the least 'at risk' countries for mobile security. It appears that emerging markets are seeing more self-empowered workers who are embracing new technologies and new ways of driving growth, but are also introducing added risks into the business. The results suggest that while risk can be bad, it can also be good for business -- something that more conservative Westernized markets should take note of. "If the workforce thinks nothing of sharing passwords or devices in order to get things done, this presents an interesting productivity vs. security challenge for IT managers the world over. "Striking the balance will be all important to ensuring companies are attracting and retaining the best talent, without exposing sensitive data in the process." Aruba Network's 'Running The Risk' report highlights the potential pitfalls businesses should expect given their employees' computer security habits. Aruba's online self-assessment tool help companies assess their risk levels and compare it against other countries' industries in the study.

Mideast e-commerce valued at \$4.9 billion

The rapidly evolving e-commerce in the Middle East has grown tremendously over the last decade. In May 2013, Go-Gulf designed an infographic estimating that the value of e-commerce in the Middle East in 2015 would reach \$4.9 billion. As the second half of the year 2015 fast approaches, UAE based online retail specialist Awok.com aims for 25 percent of the retail space. It is no secret that UAE is leading the e-commerce sales growth of the total GCC market and that consumer electronics is the largest product category. Speaking on this, Awok.com's CEO Ulugbek Yuldashev has the following predictions going forward:

- The fast conversion of people buying in-store to e-store is something to watch out in near future. The electricity bill, maintenance staff, and salesmen alone all involve a significant financial commitment. In comparison, a dedicated group of online assistants are enough to run an online website for several places at once. And even where it's convenient, it's likely that e-commerce will change how people buy, transforming shops to places reserved for product demos.
- Mobile is the future. With everything available at your fingertips, one sees lots of retailers and businesses coming up with their personalized mobile apps and/or enhancing their mobile sites to provide optimum user experience.
- Unreliable delivery is one major issue, which e-commerce companies are working on tirelessly. We can expect significant investment from e-businesses building up their own supply chain networks. This is an expensive bet, but one that will surely pay off.
- The one issue that all e-commerce setups face is fear from users on loss of control; call centers and customer support desks are the perfect solution for this. Budding e-commerce businesses would do well to setup dedicated customer support desks to ensure that their end-users always have a point of contact to reach out to. Customer lifetime value is integral to web commerce success and customer support centers are pre-requisites to that.
- The latest fascination with near field communication (NFC) could turn out to be a boon for the future of e-retailing markets. With NFC-enabled Google wallets, for example, one may simply tap and pay for an object of their choice. This innovative technology would promote the online shopping experience to the urban consumer, changing the way we shop forever.

Telecom Egypt publishes second quarter financials

Telecom Egypt (TE) reported consolidated revenues of EGP3.025 billion (USD385 million) in the quarter ended 30 June 2015, representing year-on-year growth of 9.6%. Turnover generated by the company's 'Home Services' accounted for the largest portion of total revenues, 29%, bringing in EGP877 million in 2Q15, up from EGP779 million in the corresponding period a year earlier. Domestic wholesale revenues were also up, rising from EGP692 million in 2Q14, to EGP699 million a year later. TE's 'Enterprise Solutions Business Unit' meanwhile experienced an overall decline in revenues year-on-year, with turnover falling by 6.4% to EGP511 million in 2Q15, impacted in part by 'ongoing discounted promotional activities from the start of the year'. More notable was an 84% y-o-y drop in turnover attributed to the company's International Customers & Networks Business Unit; with revenues for this unit totaling just EGP165 million in 2Q15, down from EGP1.03 billion a year earlier, TE noted that this drop was ultimately due to it having reported an 'exceptional' second quarter in 2014, when it concluded two major non-recurring transactions with the SMW-5 cable system and AAE1 cable system, respectively. EBITDA in the period under review totaled EGP881 million, representing a 49.1% decline from EGP1.730 billion in 2Q14, while net profit after tax was EGP378 million, up from EGP243 million. Capital expenditure for the second quarter of 2015 meanwhile reached EGP567 million, an increase of 51% when compared to the corresponding period a year earlier. Commenting on the results, TE's chief executive Mohamed Amin El-Nawaw was cited as saying: 'Today's results for the second quarter 2015 are a good indicator of both the environment in which we operate and the ongoing modernization of Telecom Egypt, as we continue to serve the evolving telecommunications needs of our customers and fulfill our customer-centric approach ...With the understanding that the first half of 2014 brought with it a number of non-recurring revenues, the overall performance has been healthy over the last quarter. We have reported a significant increase, in net profit compared to last year.'



Mobile operator Turkcell considering Lebanon telecom tender

Turkcell is considering participating in a tender for management of a state-owned mobile network in Lebanon, the Turkish mobile company said on Tuesday. Turkcell said it was conducting a "preliminary review" of the tender but no firm decision has been made.

GSMA Report Calls For UHF Spectrum in Arab States to be Co-allocated for Broadcast TV and Mobile

The GSMA has published a new report finding that terrestrial digital television broadcasting in the Arab States does not need an exclusive allocation of the UHF spectrum band (470-694MHz). The report "Terrestrial Broadcasting and Spectrum Use in the Arab States", developed by Plum Consulting, highlights how a significant amount of the UHF band could also be used for mobile broadband, unlocking significant socio-economic benefits throughout the region. The report calls on Arab Spectrum Management Group (ASMG) countries to agree on a co-primary allocation for broadcast and mobile in the UHF spectrum band at the International Telecommunication Union's (ITU) World Radiocommunication Conference (WRC-15) in November 2015. "Spectrum is a scarce resource and regulatory authorities in the Arab States are looking to maximize flexibility so that their networks are ready to meet consumers' growing demand for mobile data," said John Giusti, Deputy Chief Regulatory Officer, GSMA. "Adding a mobile allocation would allow countries to make the best and most valuable use of this spectrum to meet the needs of their citizens, especially for underserved communities, while still supporting over-the-air television in the band." A joint

position among the ASMG member states in favor of a co-primary allocation in the UHF spectrum for broadcast and mobile at WRC-15 would foster the option to roll out low-cost mobile broadband services in the future, especially in underserved areas. If action is not taken now, it will make it more difficult for regulators to release additional spectrum from the UHF band for mobile until as late as 2030 or beyond, an unnecessary and avoidable outcome. According to Cisco, the Middle East and Africa will experience the strongest mobile data traffic growth of any region between 2014 and 2019, but in some Arab States mobile broadband growth is restricted by a lack of available spectrum. The report finds that demand for broadcasting capacity in the region has been overestimated in previous policy decisions. Viewership of terrestrial television in many Arab countries is low, with consumers choosing to watch television over satellite, cable and, increasingly, IPTV. According to the study, all UHF spectrum above 582MHz may potentially be released for other services, including mobile broadband, while still supporting all current and projected terrestrial TV requirements in the region. Current plans to modify the Geneva 2006 (GE06) Digital Plan in the region require each market with sufficient spectrum to support four digital terrestrial television (DTT) multiplexes, which would allow for approximately 32 TV channels in each country. However, the number of existing analogue television channels varies from one in Djibouti and Jordan, to 18 in Sudan. The study indicates that the number of multiplexes needed to carry the existing number of television channels varies between one and four, and it is likely that three multiplexes would be able to accommodate all countries, with two multiplexes sufficient to accommodate at least 13 of the 18 countries in the region, supporting the release of spectrum from broadcasting. "Efficient placement of terrestrial broadcasting in the UHF band would free spectrum across the Arab States even if all existing TV channels continue to be broadcast over digital terrestrial television. This would not only allow television broadcasting more than a sufficient allocation of the spectrum resource, but would also free up spectrum to allow mobile broadband to grow and thrive, delivering its well-documented benefits to people, businesses and governments throughout the region," continued Giusti.

Etisalat sells more Nigeria towers to IHS

IHS takes over management of a further 555 mobile towers in Nigeria. Etisalat has transferred 555 telecoms towers in Nigeria to infrastructure specialist IHS Towers as part of a deal that was signed a year ago. In a statement IHS said the transfer formed the second tranche of an agreement between itself and Etisalat. The first tranche saw Etisalat part with 2,136 cell sites in August last year. The firms did not disclose the value of any part of the deal. The sale and leaseback of the towers will enable Etisalat to increase network capacity "and to accelerate the rollout of coverage and new services to [its] customers," said Matthew Willsher, CEO of Etisalat Nigeria. "For Etisalat, the partnership lowers operational costs and supports a cleaner environment through reduced diesel usage," added Issam Darwish, IHS group CEO. The towers company explained that it has installed a number of alternative energy sites in Nigeria in the past year and is deploying advanced generators, batteries and alternative power solutions in a bid to reduce power consumption. By the end of 2016, IHS says 80% of its towers will be run on hybrid solar solutions. Having completed the Etisalat deal, IHS has a portfolio of 15,500 towers under its management in Nigeria and 23,100 across Africa.

Batelco, Huawei trial 40Gbps technology

Bahrain Telecommunications Company (Batelco) and Chinese vendor Huawei have partnered to trial 40G Time and Wavelength Division Multiplexing Passive Optic Network (TWDM PON) technology, successfully reaching speeds of 40Gbps. According to reports from Trade Arabia, which cites a statement from Batelco, the operator claims to be the first in Bahrain to test the technology on its network. Batelco CEO Muna Al Hashemi commented: "The availability of 40Gbps will help ensure that Batelco's investment in its fiber network is future proof, through the integration of the company's existing GPON 2.5G and 10G technologies with the future expansions, as it provides a transmission platform that will allow several technologies to co-exist in parallel."



Telcos Eye New Opportunities as Turkey Gears Up for 4G Rollout

4G investments in Turkey are expected to start this year via spectrum auctions, and increase incrementally in subsequent years. And although there is no definitive recipe for a successful 4G launch, International Data Corporation (IDC) believes a successful 4G marketing strategy has two main components how the operator differentiates from its competitors and how this differentiation is communicated to end users. "It is difficult to anticipate how mobile operators will position themselves during and after the launch of 4G services," says Fatma Ozdemir, program manager for telecommunications and media at IDC Turkey. "However, all three operators want to be first, in order to get and maintain a competitive advantage. Operators should reshape their broadband marketing strategies alongside the introduction of new technology in order to retain their leadership position, attack the market leaders, or increase their market shares." IDC also believes that operators should look to emphasize the enhanced user experience, stressing the end-user benefits of 4G over 3G in particular. "Compared with 3G, users can download more content in the same amount of time, driving data-intensive downloads such as music and video streaming," says Ozdemir. "And by offering a significant reduction in round-trip delay time, 4G also creates a better user experience with respect to real-time applications such as VoIP, video calls, online gaming, and banking. Away from the consumer market, 4G can also be a game changer in the enterprise space thanks to its differentiating capabilities in providing businesses with high-performance collaboration solutions such as cloud-based unified communications and videoconferencing." Despite a certain amount of progress with respect to 4G, a number of regulatory issues remain unresolved. Problems associated with the ineffective management of infrastructure sharing and right-

of-way processes remain as barriers to countrywide adoption of 4G. With the introduction of 4G, mobile operators will be able to share passive components in base stations such as generators and towers; however, spectrum sharing is forbidden by the regulatory authority due to security concerns. "Since spectrum sharing is not allowed, the government should actually auction a broader range of radio spectrum to accommodate vast numbers of users without compromising Internet capacity and signal quality," says Ozdemir. "Operators are concerned that they might not receive enough spectrum to run high-capacity networks in the future."

Vodafone Qatar boasts 375Mbps CA speed

Vodafone Qatar has announced that it is the first telecoms operator in Qatar and one of the first in the world to achieve a peak speed of 375Mbps on its live mobile network, having tested and deployed tri-band LTE Carrier Aggregation (CA) using 50MHz of spectrum across its sites in Doha Corniche and the Qatar Science & Technology Park. Other sites across Doha are to be progressively equipped with tri-band CA by November 2015, in key locations such as West Bay, Katara, The Pearl and others, the cellco's press release states. Ramy Boctor, CTO at Vodafone Qatar, said: 'With the rollout of 3 Band Carrier Aggregation, we are getting ready for the launch of the newer smartphones which will enable such technology levels and this is expected to happen towards [the] end of August 2015 when some mobile phone manufacturers will start offering these handsets in the market. Having said that, all Vodafone 4G+ customers can now see improvements in speed bringing the maximum speed up to 300Mbps, a significant increase over the existing, but also substantial, 225 Mbps.' In April this year, Vodafone concluded the first phase of a network evolution program by upgrading every network site in Doha (65% of its national network). In addition the company installed 134 new outdoor sites, 42 indoor sites, 290 4G outdoor sites and 25 4G indoor sites, increasing both 3G and 4G coverage, doubling 3G capacity, tripling 4G capacity and tripling data capacity. In July 2015 Vodafone began the second phase of the network evolution which will

see the same improvements spread outside the capital. At the end of this program, scheduled for October 2015, Vodafone will have overhauled its entire network to offer better network experience across the whole country

UAE mobile subscribers grow slightly in second quarter

Mobile subscriber numbers in the UAE have grown to 18.66 million in the second quarter of this year, registering a growth of 1.08 per cent compared to 18.46 million during the same period last year. Etisalat had 11.3 million subscribers in the second quarter while du had 7.36 million. In the same period a year ago, etisalat had 11.30 million subscribers while du had 7.16 million. Compared to the first quarter of this year, the mobile subscriber numbers fell by 1.16 per cent from 18.88 million due to the cancellation of many SIM cards under the 'My Number, My Identity' campaign, where subscribers need to reregister their SIMs with their Emirates ID card. The telecom regulatory body started the campaign in July 2012 in collaboration with the two telecom operators to increase mobile subscriber awareness and help protect subscribers' rights and prevent risks of misuse which could result in civil and criminal cases. "The strategy to grow for telcos is more to do with value-added solutions such as Mobile Wallet, Mobile Connect, faster and secure connectivity etc. At the same time subscriber base is also likely to grow significantly as country prepares to Expo 2020," Sukhdev Singh, associate vice-president at market research and analysis services provider AMRB, told Gulf News. He said the UAE market is going to be an "exciting ground" for service providers — on one side one expects the launch of new services, and on the other side subscriber base would also continue to swell at a healthy rate until 2020. Moreover, he said that developments in M2M (machine-to-machine) communications and IoT (Internet of Things) market developments, ICT sector in the UAE is up for an exciting future growth. "UAE has been a leading adopter of technology in the world, and advancement in the global technology sector means more action in the local market. Over the next few years, one does feel that significant share of revenues will shift to data and other value adding services," he said.



Zain Sudan to plough \$200m into mobile network

CEO Elfatih Erwa reiterates interest in acquiring Sudanese fixed-line provider Canar. Zain Sudan has set aside US\$200 million to expand its mobile network in 2015/2016, it emerged late last week. The telco's CEO Elfatih Erwa told Reuters about his spending plan on Friday, and explained that the company has deployed a 4G LTE network in the capital Khartoum but has yet to receive an operating license from the government. In mid-May, local news outlets reported that the Sudanese telco ministry planned to approve 4G services within three months. Also last week, Zain reported that first-half revenue at its Sudan operation grew 6% year-on-year to \$355 million, while EBITDA increased 2% to \$139 million. Its customer base increased to 11.6 million from 11.4 million. According to Reuters, Zain Sudan is also still interested in acquiring Etisalat-owned fixed-line provider Canar. Talks between Zain and Etisalat regarding Canar broke down in 2013, but Friday's report suggest they could be restarted. "The desire is still there on both sides," Erwa said in report

Pakistan to shut down BlackBerry services by December over 'security'

The Pakistani government plans to shut down BlackBerry Ltd's secure messaging services by December 1 for "security reasons", the Pakistan Telecommunication Authority said. Pakistan, a nuclear-armed nation of 180 million people, is plagued by militancy, criminal gangs and drug traffickers. "PTA has issued directions to local mobile phone operators to close BlackBerry Enterprise Services from Nov. 30 on security reasons," an official with the Pakistan Telecommunications Authority said in a text message. He asked not to be named due to the sensitivity of discussing communications and intelligence. BlackBerry was not immediately available to comment. A report released this week by British-based watchdog Privacy International said Pakistan's powerful military

intelligence agency, the Inter-Services Intelligence (ISI), was seeking to dramatically expand its ability to intercept communications. BlackBerry encrypts data such as emails and its BlackBerry Messenger messages sent between a user's phone and public networks, ensuring greater privacy for users but making life harder for police and intelligence agencies. The company has faced similar problems in the past in India, the United Arab Emirates, Saudi Arabia and Indonesia. The Privacy International report said the ISI had few legal checks on their surveillance. "Pakistan's intelligence agencies have abused their communications surveillance powers, including by spying on opposition politicians and Supreme Court judges. Widespread Internet monitoring and censorship has also been used to target journalists, lawyers and activists," the report said.

Maroc Telecom announced '4G+' rollout

Maroc Telecom has announced that it has enlisted a trio of international vendors to support its deployment of '4G+' (i.e. LTE-A) technology. The suppliers have been named as Nokia Networks of Finland, Ericsson of Sweden and Huawei of China. A media statement from the telco read: 'The choice of multiple vendors is part of Maroc Telecom's strategy to diversify its supply sources to maintain the autonomy and flexibility for future developments'. The 225Mbps 4G+ network is poised to be introduced on a commercial basis today (13 July). At launch, the network will cover provincial centers, major highways and key railway networks. According to TeleGeography's GlobalComms Database, in March 2015 Maroc Telecom paid MAD1 billion (USD102.5 million) for 4G-suitable frequencies in the 800MHz, 1800MHz and 2600MHz bands.

Turkcell, Ericsson sign 5G MoU, preparing for near-future adoption

Turkish mobile market leader Turkcell and Ericsson have signed a Memorandum of Understanding (MoU) to collaborate on 5G research and development, the Swedish vendor revealed in a press release. The main objective of the MoU is

to develop a joint understanding of 5G use cases, requirements and deployment scenarios, as well as evaluate performance and applicability of potential 5G key technology components and business collaboration as to 5G potential research projects. Turkcell CEO Kaan Terzioğlu said: 'Turkcell is determined to shape and deploy the most advanced technologies in its footprint. Partnering with Ericsson, we aim to develop a joint understanding of 5G use cases, requirements and deployment scenarios and evaluate the performance of key technology components. This collaboration will enable us to address the needs and expectations of consumers and corporate customers from various industries. We will continue to work closely with our partners in the 5G arena.' Hans Vestberg, CEO of Ericsson, added: 'We are expecting 5G adoption to begin in the near future, hence we are focusing on the ways in which the industry will adopt the 5G standard globally to deliver capabilities and services beyond the mainstream 4G offerings. With operator cooperation's like this, we bring research into the live test networks which give us valuable insights.' The release notes that 5G will evolve the entire communication ecosystem, from devices to mobile access, IP core and the cloud. Ericsson's latest 5G test network initiatives focus on the interactions between mobile devices and the radio access network, indoor and outdoor.

Middle East digital economy expected to double by 2018

As the region continues to diversify its economy, the Middle East's business landscape is quickly adopting latest technologies to capture competitive advantages arising from leveraging the Internet of Things, big data & predictive analytics and further leveraging mobile technology in heart of their core businesses. A SAP and Economist Intelligence Unit (EIU) report indicate that organizations are observing unforeseen benefits to their business performance as a result of increasing the accessibility of information across organizations, whether on prospective clients, existing customers, on internal processes or on internal data of whatever kind. Demonstrating the demand for solutions in the Digital Economy, according to McKinsey & Company, businesses that embrace



digital transformations could see increased revenue as much as 30 percent. "This will be not just another evolution in technology. It will be a revolution for both: the way business are run, and also how new business models are suddenly possible. As the Middle East continues to be an early adopter of latest innovations, businesses in the region, local businesses will have to define their approach now to stay relevant in this new digital economy," said Hannes Liebe, COO, SAP MENA . "Those new technologies such as cloud, Big Data, predictive analytics, and Internet of Things are already reshaping a new reality, and companies will have two choices: either invest or they face the risk of becoming irrelevant", added Liebe. This new Digital economy in the Middle East is set to exceed USD30 billion by 2018, following almost 30 per cent growth this year, according a recent report. ([1]) Another report indicates that the digital economy accounts for approximately USD 450bn a year of the global GDP from traffic and trade flows ([2]). Adding to the digital economy's growth is the rise of the Internet of Things, which will see connected devices grow from 9 billion now to at least 50 billion in 2020, and create USD 14.4 trillion in total value at stake, according to a recent report by SAP and Stephenson Strategies. "With the emergence of the digital economy backed by initiatives such as 'smart cities', organizations are demanding a holistic ICT approach to be able to digitize business processes across platforms, cloud-based services, analytics and citizen-centric applications," said Liebe. "We also anticipate an increasing need of ICT skills in those new technologies. To meet these market demands, decision makers from the public and private sectors must be prepared to invest in better integrating of ICT learning, and training workers with ICT and e-business skills." The recently-released SAP Business Suite on SAP HANA (SAP S/4 HANA) regarded one of the most innovative platforms available at present, connects holistically people, devices, and business networks in real time. Thus SAP S/4 HANA has been recognized across the Middle East as a leading platform for innovation. Hundreds of customers worldwide, across a

wide range of industries, are using this 4th generation platform already and benefit from its built-in in-memory and real-time capabilities for their digital transformation strategy. SAP has facilitated such digital economy implementations with technological developments, including connecting businesses seamlessly across company boundaries with services such as Ariba, a cloud-based procurement solution, Concur, a leading cloud-based travel and expense management service, and Fieldglass, a cloud-based Vendor Management System to manage contingent workforce and service procurement programs. "Business Network Platforms that connect companies digitally and run processes on those platforms will become the gold standard of doing business in many areas. Today we see this is already the case for procurement processes, acquiring and evaluating contingent workforce and travel management", concluded Liebe

Regional governments set to spend US\$9.5 billion on cybersecurity by 2019

Regional governments see cybercrime as a growing threat and together are set to invest heavily on cybersecurity over the next four years, according to experts. An industry on the rise, a recent report from Pricewaterhouse Coopers indicated a staggering 42.8 million information security incidents reported globally in 2014, up 48% from the previous year. According to a Cisco Annual Security Report, the Middle East faces increasing malware threats from cyber-attacks, particularly in the energy sector which was in the global top five most-at-risk industries for malware in 2014. The global energy sector was subject to a 300% higher malware encounter rate than the median industry. And, with the Middle East home to more than 60% of OPEC's oil reserves, investment in cybersecurity is a critical issue for governments and corporations alike. A recent MarketsandMarkets report estimates that regional governments will spend upwards of \$9.5 billion on cybersecurity by 2019 as governments and enterprises collaborate to implement strict laws and regulations for securing networks. Making its debut in the region, Infosecurity Middle East will launch during the seventh edition International Security

and National Resilience (ISNR) Abu Dhabi exhibition next year. The leading international event is an offshoot event from Infosecurity Europe, Europe's number one information security exhibition and conference for over 20 years. "We must remember the world of cyber space is constantly evolving. Continuous attacks globally and in the region on governments and businesses demand the constant development and progression of solutions and technology which are growing at staggering speed," said Nicky Dawson, Group Exhibition Director of ISNR Abu Dhabi. "Cybersecurity was a key issue addressed during this year's World Economic Forum and governments around the world, including in this region, have identified it as a threat to national security. The launch of Infosecurity Middle East brings a proven authority within the global information security industry, with more than 20 years of experience in Europe, to the rapidly growing regional market," Dawson added. Under the guidance and direction of the UAE's Ministry of Interior, ISNR was established as a platform for countries from around the world to see and source the world's very latest homeland security solutions in one place, at one time. For the three-day March 2016 ISNR event, there will be more than 500 exhibiting companies from 45 countries showing solutions to nearly 20,000 attendees from more than 90 countries, many of whom will form country delegations of buyers. InfoSecurity is a highly respected international brand in the information security industry and in 2016 will be a co-located exhibition with ISNR Abu Dhabi to serve regional governments, critical infrastructure, major public institutions and IT security officers with the latest trends and innovative solutions to ensure the security of business information and IT infrastructure. ISNR Abu Dhabi in its 7th edition on March 15-17, 2016 is expecting 500 exhibiting companies from 45 countries spreading over 27000sqm, in addition to 18,000 local and regional experts and decision makers from the private and public sectors and over 150 regional and international government buyers and delegation members.



UAE mGovernment calls for participation in the redevelopment of the nation's ePortal

In an effort to develop the delivery of government services to the public through digital and smart channels and in keeping up with the latest international developments in e-portal design, UAE mGovernment updated the UAE's official government portal (government.ae). These changes mostly came in response to various suggestions from public which were sent through a discussion forum, UAE government blog, as well as social media platforms including, amongst others, the government's accounts on Facebook and Twitter. In order to involve the largest possible number of users, mGov launched a special questionnaire to collect people's opinions about the portal in terms of form, content and functions, with the questionnaire being offered through a link located on the portal itself. The survey included questions to users to help determine their expectations of the portal, especially with regard to ease of use, access and wealth of content. To entice users to complete the survey and provide the best feedback and suggestions, five awards have been allocated for the five best developmental proposals which contribute either in terms of content or in terms of design and services being offered. "We are trying through this questionnaire to embody the principle of e-participation that promotes interaction between the government and the public and makes everyone a partner in improving our services. In our leadership, we have a good example of this, where His Highness Sheikh Mohammed bin Rashid Al Maktoum, UAE Vice President, Prime Minister and Ruler of Dubai has encouraged public debate through his Highness's accounts on Facebook, Twitter and other platforms," said H.E. Hamad Obaid Al Mansoori, TRA Director General. "We want to receive the largest possible number of comments and responses, and we promise users of the official government portal that their comments will reach our teams

who will then work on analyzing the public's feedback. As such, turning it into practical recommendations and programs to improve the performance and development of e-services. We are confident that users are the best stakeholders to express their needs and expectations with regard to mGovernment," H.E. added. The portal of the UAE with its fresh design and new services, as well as changes in the layout and color scheme, reflects the national identity of the UAE. It also offers comprehensive and detailed information on the services provided by all ministries and government entities for various users including individuals, businesses and visitors to the UAE. The portal provides a reliable source for everything related to the history, culture and heritage of the country as well as major tourist attractions. It allows for the possibility of direct interaction with users through an engaging platform. The new e-portal provides a full range of communication channels, including a complaints and suggestions system and social networking accounts for all government agencies, as well as a blog and an open forum for constant participation.

PTA launches Smart Pakistan Portal to promote mobile apps

As part of its effort to encourage use of mobile broadband, Pakistan Telecommunication Authority (PTA) on Tuesday launched a web portal - Smart-Pakistan - to give developers an opportunity to showcase their applications. Smart-Pakistan (www.smartpakistan.pk) web portal will provide one stop repository and directory of mobile applications, focusing on different thematic areas such as mEducation, mHealth, mGovernment etc. It will provide an easy to use platform where a user can search for applications related to their requirements. The aim of 'Smart-Pakistan initiative' is also to engage the application developers and give them an opportunity to showcase their apps through this portal. The Smart Pakistan initiative is first path-breaking step towards achieving this objective as the emphasis will be to promote mobile applications and services that are relevant to Pakistani society and at the same time to encourage operators, Original Equipment Manufacturers (OEMs)

and local developers in promoting innovative ideas. This initiative will bring all stakeholders such as citizens, government, mobile operators, OEMs, international organizations, academia, mobile entrepreneurs and others under one platform to build a sustainable echo-system. In collaboration with professionals from industry, PTA has also set up a 'Smart Pakistan m-Lab' at its headquarters to provide mentoring and coaching services for young mobile applications developers and entrepreneurs. It will provide start up, acceleration and launch services to the developers. It may be further added that the Smart Pakistan is an ongoing initiative and its m-Education Platform has been formally launched here.

Federal Government Imposes 14% Advance Tax on Internet Connections across Pakistan

An advance federal tax of 14 percent has been declared on Internet users all over Pakistan, summing up to an extra amount of 14 percent to be paid on the internet services bill. While Punjab has reversed its imposition of 19.5 % GST in the previous month, people in Sindh and Khyber Pakhtunkhwa will still be paying a total tax tariff of 19.5 percent GST and 14 percent withholding tax. However unlike GST, this withholding tax amount can be re-claimed by the customers who file for the return. While Internet Service Providers will be rolling out notifications to inform their customers for the recent tax enforcement, telecom companies are still uncertain if the tax will be applied for deduction on mobile data usage. According to ProPakistan, teleco brands already deduct 14 percent advance tax on loading of mobile cards. Nevertheless, the probability seems high that even mobile users across Pakistan will be accounted to the new tax enforcement.

Libya investing USD56m in Uganda's UTL

The Libyan government is to pump USD56 billion into the Ugandan fixed and broadband provider Uganda Telecom Ltd (UTL) in order to shore up its ailing business. Libya owns a



69% stake in UTL via the Libya Africa Portfolio Green Network (LAP GreenN), while the Ugandan government holds the remaining 31%. A report from local news portal New Vision quotes Libyan Foreign Affairs minister Mohamed Dayri as saying: 'Since 2010, we have injected in USD72 million, but we are going to pump in an additional USD56 million in the next two months to be in a position to compete fairly.' He added: 'I admit a wide range of issues, such as good governance [and] lack of state of the art modern equipment like our competitors ... are some of the issues affecting UTL operations.' UTL has been struggling to keep pace with rival broadband operators such as MTN, Smile Communications and Vodafone/Afrimax.

UAE heads global 'Internet of Things' expert group

The UAE was elected as the head of a new research committee for the Internet of Things (IoT) that was formed during a recent meeting of the International Telecommunication Union (ITU) in Geneva. The group focus is on implementing the Internet of Things to smart cities and communities in order to meet the needs of standardization of the IoT technologies. This will be achieved by creating a single platform combining engineers and experts from industry, telecom operators, ITU Member States and concerned organizations, to exchange views, examine the challenges and solutions while coming up with recommendations and unified global standards in this field. The United Arab Emirates was nominated for the presidency of the committee, with Nasser Al Marzouqi, representative of the UAE at the ITU as the chairman of the committee. Saudi Arabia, Russia, Japan, Spain, South Korea, Argentina, Italy, and China were all nominated as vice-chairmen of the Committee, reflecting the great interest by ITU Member States in the work of the new research committee. Hamad Obaid Al Mansouri, UAE TRA (Telecom Regulatory Authority) director general said: "The concept of the Internet of Things, machine to

machine communication, and big data analysis as part of the important issues that will affect vital sectors including health, education, transport and other sectors. As such, it will be one of the most important pillars of the shift to smart and sustainable cities." The name of the new research committee which is the 20th research committee in the field of telecommunication standardization is "Internet of Things and its applications, including smart cities and communities". It is expected that the application of the Internet of Things' technology will lead to the interconnecting of an estimated 50 billion devices to the web by 2020. This will affect almost all aspects of daily life. The Internet of Things will contribute to the convergence between the industrial, public utilities, health care and transport industries amongst many other industries that represent the pillars of Internet of Things' technologies and its various applications.

PTA Takes Initiative to Save WLL Industry

At last, we see a ray of hope as the Telecom regulatory body Pakistan Telecommunication Authority (PTA) spun into action to revive the drowning Wireless Local Loop (WLL) industry that was poised to die leaving behind not only people jobless but also government loosing over billion Rupees in bad debt never to be recovered as was in the case of the banks a decade back. The icing on the cake is that it will give some breathing space to the struggling national company PTCL who will take over management of the company that also needed spectrum to survive in the highly competitive mobile broadband market. The PTA decision also paves way for spectrum re-farming making precious spectrum available for future auction to the current mobile operators. In short it is a win-win for all- specially the consumers, the government and most of all the industry which is crying hoarse on the inflated taxation regime by Federal Board of Revenue. This is a historic moment for the industry and the country that finally some Government body took upon itself and decided to revive a sick Industry using its mind and power vested to it for good rather it's mechanical process and lethargic attitude to do nothing as is the trend with government run institutions. The decision to revive the WLL is a ray of

hope for other struggling telecom industry and maybe a lesson for regulatory bodies such as PMDC, HEC, NEPRA, OGRA etc., that they need to do more than just sit back in their posh offices and let consumers and industry suffer at the cost of their ineptness. The WLL operator DVcom litigation remained pending before different courts of law for over a decade. Finally, the Honorable Islamabad High Court remanded the case back to PTA, with the directions to decide the matter afresh and give opportunity of hearing to DVCom. It is important to note that due to minor issues in roll-out obligations with PTA and the ministry in the last 6-7 years the company was forced to accumulate huge debt as late payment charges that exceeded even the principal amount to be paid in lieu of Spectrum acquired. PTA quite recently in a post remand hearing restored license of DVCom that completed its obligations and cleared outstanding dues amount to the tune of around Rs1.43 billion. PTA also allowed change in management of a licensee/telecom company under the regulatory framework so that the spectrum given is put to good use. PTCL- the State owned company is reportedly taking over the company and its asset and also future liabilities. PTCL has also shown interest to acquire some other WLL companies that are struggling to survive that could provide a very healthy trend for companies to avoid possible defaults on their obligations. Meanwhile, the PTA is also reported to make arrangement that the WLL industry re-farm the existing spectrum given to them sometime back that is globally used for 3G/4G Services that shall pave way for the current mobile network operators to have more spectrum available to them in near future in view of the fast growing 3G/4G subscribers in the country. It is also important to note that some rouge elements in the industry that are not happy with the current positive developments on the ICT scene have tried to make this development like the last year 3G/4G auction look controversial and leaked uncooked stories in the press.



REGULATORY NEWS

REGULATORY UPDATES

Australian government outlines plan to update spectrum legislation

The Australian Competition and Consumer Commission (ACCC) has published its final decision on mobile termination rates (MTRs) for the period 1 January 2016 to 30 June 2019. As per its ruling the regulator has said that the wholesale price of terminating calls on an Australian mobile network should be AUD0.017 (USD0.012) per minute, less than half the current rate of AUD0.036 per minute. Meanwhile, operators will now be required to charge AUD0.030 per SMS to receive such messages, with this price said to have been based on the network capacity and equipment used to carry SMS, while it was noted it was 'well below current commercial rates for SMS termination'. However, with voice-over-LTE (VoLTE) technology expected to reduce the cost of terminating both mobile calls and SMS messages, the ACCC has said it will monitor the planned rollout of such services and may review the regulated rates if there is evidence that it is affecting costs. Commenting on the rulings, ACCC Commissioner Cristina Cifuentes was cited as saying: 'The ACCC does not regulate retail charges, either for mobile calls or SMS, but expects these savings ... will be passed onto consumers either by way of lower charges or through

improved call and SMS inclusions in retail plans. The final regulated rates reflect the costs of terminating calls and SMS messages on Australian networks and is based on benchmarking the costs of these services against those in other countries.' Meanwhile, in separate but related news, Australia's communications minister Paul Fletcher has announced the government has agreed to implement the recommendations of the Department of Communications' Spectrum Review, which was published in May 2015. The state is now planning to: replace current legislative arrangements with new legislation that removes prescriptive process and streamlines licensing; ensure better integration of the management of public sector and broadcasting spectrum; and review spectrum pricing. The government has published a timeline for what it calls the key implementation milestones, with expectation that the new framework will commence from mid-2017.

Broadband Stakeholder Group launches UK net neutrality review

Government advisor to assess effectiveness of open Internet code of practice, recommend possible improvements. The Broadband Stakeholder Group (BSG) on



Thursday launched a review into the U.K.'s open Internet code of practice. The government advisory body said it will evaluate the efficacy of the current regime, assess its compatibility with the EU's net neutrality proposals, and identify potential improvements. The BSG helped to draw up the traffic management and open Internet codes of practice, published in 2011 and 2012 respectively. Under the voluntary guidelines, ISPs pledge to publish their traffic management policies, and ensure that their Internet access products do not block legal Web content. "Both codes have been essential in making sure we have an open Internet for consumers in the U.K. The government encouraged the industry to develop a self-regulatory solution and so I am delighted with their success," said digital economy minister Ed Vaizey, in a statement. The majority of U.K. ISPs have signed up to the rules. "The U.K.'s self-regulatory approach has meant that consumers have benefited from increased transparency, service providers have been given regulatory certainty and content providers have been protected from discriminating practices," added Matthew Evans, CEO of the BSG. "It is right that we review the codes' compliance under the new EU regulation and make sure that they are fit for the future," he said.

Nigerian President Investigating Nitel Sale

The sale of the former state owned telco, Nitel, and its miniscule mobile subsidiary has been put into question following the intervention of the newly elected President. President Muhammadu Buhari has ordered the Communications Ministry to hand over paperwork on how the sale was processed following claims that the previous government sold the company for less than its value. The charge is unlikely to have much credence though, as Nitel was practically bankrupt, and several previous attempts to sell the company foundered. The ministry of communications' permanent secretary Tunji Olaopa said "The president was also concerned about the liquidation of NITEL. He is not opposed to its privatization but he wants to know... and he wants us to bring a memo on how the whole transaction was undertaken so that he would know whether Nigeria was short-changed." The privatization took place last year, and was formally a few months ago, when the winning consortium paid

USD252 million for the company. Nitel had less than 100,000 landline users when it was wound-up by the government, and barely a few thousand customers of its mobile network. That compares to a country with over 100 million mobile phone subscribers connected to the private networks.

UK regulator un phased by BT/EE merger

Ofcom's response to CMA on proposed tie-up between U.K. fixed and mobile players suggests it sees no serious threat to competition in the market. Ofcom is not particularly concerned by the potential impact on competition stemming from BT's plan to merge with EE, at least if a recently-published submission to the U.K.'s Competition and Markets Authority (CMA) is anything to go by. The U.K. telecoms regulator is not in a position to rule on the proposed £12.5 billion takeover, but has submitted its comments to the CMA, along with other stakeholders. Its document was compiled late last month and added to the CMA's Website on Thursday. Overall, Ofcom believes it already has the powers to protect the market from any threat to competition. "Many of the competition issues that are potentially raised by the BT/EE merger are either covered by the existing regulatory measures we have taken or fall within the scope of these regulatory powers," the regulator said. Ofcom addressed many of the key areas of focus raised by the CMA in the statement of issues it published last month, including the impact on the retail mobile market, the provision of wholesale mobile and mobile backhaul services, and the fixed broadband sector. Regarding the loss of BT as a potential competitor in the retail mobile market, Ofcom noted that much will hinge on the outcome of the planned tie-up between 3 UK and O2, however it made it clear that it sees no serious causes for concern in any of the possible scenarios. Should that merger not go ahead, the only possible impact on competition from the BT/EE merger would be if their rivals were unable to meet growing demand, Ofcom said, but added that this problem is unlikely to arise since all mobile operators will have the opportunities to increase capacity going forward? If the 3/O2 merger takes place without the European Commission imposing any remedies on it – preferential access for MVNOs or incentives to attract a new player into the market, for example – the BT/EE tie-up could end up reducing competition in the market, Ofcom

conceded. But most European deals have had conditions imposed upon them. BT would be in a position to take advantage of those remedies only if the EE buy does not go ahead. The regulator shared similar responses to similar competitive threats in other areas of the market, in all cases highlighting possible competitive threats, without expressing any serious concerns. Ofcom being Ofcom, there is no clear conclusion in its report. However, reading between the lines, it is pretty clear that the U.K. regulator does not share the same fears as many of BT and EE's rivals have expressed regarding the impact of the proposed merger.

India approves spectrum sharing rules

The Indian government has approved proposals to allow operators to share spectrum within service areas, although no decision has been made regarding the sale or trading of spectrum whilst the leasing of spectrum has been forbidden, the Economic Times writes. The decision will allow operators to utilize more spectrum without the additional cost of purchasing the frequencies at auction and potentially enable cellcos to use their spectrum more efficiently. Telecom Minister Ravi Shankar Prasad commented on the development: 'This will be a game changer for the industry. Some operators have a large customer base and less spectrum, whereas it is the opposite for others. Sharing will allow efficient utilization of bandwidth and help address issues of call drop and call congestion.' The new rules permit operators within the same circle to share spectrum within the same band, with several caveats. Non-auctioned spectrum should not be shared with auctioned frequencies unless the market price is paid for the former, with the government singling out the 800MHz band for special treatment, adding that for airwaves acquired in the March 2013 sale, sharing will only be allowed if the difference between the March 2013 and most recent (March 2015) auction price is paid. With regard to spectrum caps, operators will be treated as holding half of the shared spectrum. For example, if one operator holds 10MHz of spectrum and another 8MHz, the first would be treated as holding a total of 14MHz, whilst the latter would count as having 13MHz. Cellcos are not allowed to hold



more than 25% of the total allocated spectrum in each circle, nor can they hold more than 50% of the allocated frequencies in a particular band in each circle. For the purposes of spectrum usage charges (SUCs), however, sharing operators are treated as sharing their entire spectrum holding in the bands in question. In the case above, for example, both operators would be charged for 18MHz. Further, cellcos will be subject to an additional SUC of 0.5% on shared spectrum. Operators will be required to apply to the government for permission to share spectrum, with requests submitted at least 45 days ahead of the planned start date. A processing fee of INR50,000 (USD771) is also required from each operator per circle.

Philippines' Senate debates new Cellphone Registration Act

The Philippines' Senate yesterday opened discussions on a new Cellphone Registration Act which, if passed, would force all pre-paid SIM card users to register their cards. In presenting the draft bill, the chairman of the Committee on Public Services, Senator Vicente Sotto III, said that the measures needed to be taken to stop SIM cards being used for nefarious means such as triggering bombs, identity theft through SIM swap scams and other crimes. Backing the call, Valenzuela City Representative Sherwin Gatchalian, the driving force behind the Cellphone Registration Act in the Lower House, added that the bill will ask domestic telcos to submit data on end users directly to the industry regulator, the National Telecommunications Commission (NTC). With more than 111 million pay-as-you-go SIMs in operation in the Philippines, the government is actively looking to ensure that users register their cellphone numbers and details, although critics of the plan are unsure as to how the state can guarantee that the personal database of user information is both secure and protected against leaks. A number of leading telcos have already opposed the bill, arguing that people's rights to communicate with one another freely would be threatened by the new Act. The Philippine Chamber of Telecommunication Operators (PCTO) says that while it backs any measure that would reduce crime

associated with SIM cards, it does not agree with the proposed method of registration. The PCTO legal counsel Rodolfo Salalima argues that the right to telecommunications is a 'basic human right' and this is imperiled by the proposed legislation, noting too that it runs contrary to the government's stated aim of 'bringing basic telecommunications services to all parts of the country'. Those against SIM card registration point to high profile failures of registration schemes in the United Kingdom, Mexico and Kenya, which they claim have done little to deter crime. 'So the intended solution will not in fact be a solution at all. Instead it will disenfranchise and cause a lot of hardship for millions of Filipinos,' Salalima said. But Sotto has dismissed such assertions, saying that more important issues are at stake: 'When you trample on the right to life, the right to telecommunicate takes a back seat.'

ARCEP adopts shared fiber access decision

French telecom regulator Autorite de Regulation des Communications Electroniques et des Postes (Arcep) has adopted its draft decision with regards to the technical and operational processes of sharing fiber-to-the-home (FTTH) networks, after the European Commission (EC) and France's Advisory Commission on Electronic Communications granted their approval. The document aims to regulate the terms defined by building operators for the provision of fiber-optic access to alternative providers and includes various recommendations 'to promote better interoperability between operators' on a non-discriminatory basis. Arcep will impose different timeframes for each aspect of the new provisions (in accordance with their respective impacts), with operators required to provide regular reports on their progress. Arcep disclosed that the pace of shared fiber-optic local loop rollouts has increased considerably in recent months, with 4.40 million eligible premises as of end-March 2015. As the future success of fiber-optic services will depend on internet service providers' (ISPs') ability to sell homogenous products nationwide, Arcep said, it is therefore essential that the terms and conditions for accessing fiber networks be homogenous, to enable the market's 'industrialization'.

Traffic management not to blame for net neutrality concerns

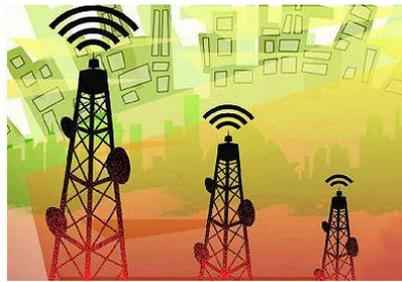
Net neutrality is a subject that will either raise your hackles or bore you to death, yet it has become one of telecoms biggest political battlegrounds and creating plenty of work for regulators and lawyers. Are your internet services being delivered fairly and equally, or are some (thanks to commercial arrangements between content providers and ISPs) getting more priority, attention and speed than others? There is a risk that the argument over net neutrality – and more importantly what to do about it – could be won by those with the loudest voices, so it comes as a pleasant surprise to learn that UK regulator Ofcom had decided to commission an independent technical study on the subject, it aid it with its forthcoming rulings. Specifically, the study looked at traffic management – the collection of techniques employed by ISPs to curb network congestion and to theoretically improve the efficiency of their networks. The principal is that traffic management can better match network resources to quality of service (QoS) demands of content delivery services and applications. But are ISPs really using traffic management to prioritize certain types of commercially-friendly traffic, and hence undermine net neutrality? Ofcom, like all regulators, needs to ensure that ISPs are acting in accordance with their license conditions and not exhibiting anti-competitive practices. In addition, says Ofcom, the increasing use of traffic management also raises questions about consumers' awareness and understanding of the impact that the technology has on their broadband service. But in order for regulators to pass judgment on traffic management, they first have to be able to detect its affects and measure its impact. This, it appears, is easier said than done. Here's what Ofcom would like: "For a practical solution, an effective traffic management detection mechanism should operate with a sufficient degree of precision, repeatability, reproducibility, scalability and validity of tests percentage. It should take into consideration the different ways by which access networks are architected and the variations in the digital delivery chain (peering and transit); and be able to locate the position



in the digital delivery chain where traffic management is being applied." How can you regulate something that you can't measure? Now for the bad news: such a mechanism doesn't exist. The commissioned study, which was published back in June but has only just been referenced on Ofcom's website, was undertaken by Predictable Network Solutions and can be downloaded here. The study concluded that confirming that internet service provision satisfies suitable criteria of fitness-for-purpose, transparency and fairness is challenging because of the inherently statistical nature of packet-based networks. "The absence of differential traffic management does not, by itself, guarantee fairness, nor does fairness guarantee fitness-for-purpose," it concluded. "Traffic management detection is thus, at best, one component of an overall solution for measuring network service provision." Another difficulty in measuring fairness and fitness-for-purpose, it said, is "the application-dependent relationship between network performance and application outcomes. This means that particular differences in performance may or may not matter to end-users, depending on the applications they are using." Although the study identified that a gap exists for effective detection of the presence of traffic management along the digital delivery chain, it also noted that an emerging network analysis technique, known as 'network tomography', could provide the potential for a practical and effective solution. The study is by no means an end to the debate, but it does provide a wealth of useful and objective information on network performance. Anyone wanting to weigh into the net neutrality fight should first read this report.

TRAI mandates telcos to notify users on data usage

The telecom regulator on Friday made it mandatory for telecom operators to notify its subscribers their individual data consumption at regular intervals, following several complaints of overcharging from subscribers. "Every service provider shall, through SMS or USSD after every ten megabytes of data used by the consumer, the quantum of data used," the regulator said in issuing the Telecom Consumers



Protection (Eighth Amendment) Regulations, 2015. The Telecom Regulatory Authority of India (TRAI) said that it had been receiving several complaints from consumers regarding charging for data services. "In many cases the customer knows about it only after the balance is exhausted," the regulator said, explaining why it had issued the instructions. Many subscribers further complained that they were not informed when the data pack had exhausted or when the quantum of concessional or discounted tariff in a plan was over. As a result the customer was charged a higher tariff for data without the latter's knowledge. Under the new regulations, subscribers who have availed data service through Special Tariff Voucher or Combo Voucher or add-on packs will have to be alerted immediately when they have consumed 50 percent of data, 90 percent of data and 100 percent data of the data permitted under the special schemes. Alternatively, when the data balance available in the account of the subscriber reaches 500 MB, 100 MB and 10MB. Further the regulator has also made it mandatory for telecom service providers to inform the subscribers about the details of 'new' tariff applicable after exhausting the data limit, when the data limit reaches 90% or the data balance available in the account reaches 10MB. Operators will also need to alert their subscribers on international roaming, cautioning them to deactivate data service if they does not intend to use data services. The service providers have been given time till November 15, 2015.

New taxation policy in Iraq put in place on mobile refill cards and internet services

Zain Iraq has Company, one of the mobile phone companies in the country confirmed on Wednesday that it is obliged by the government

decision to impose a tax on the sales of account refill cards. The company said in a statement, received by Shafaq News, that they would like to note, at a time when our company has received the Iraqi government's decision to impose sales tax of 20%, we will impose a rise in mobile phone cards' prices of all categories and emphasizes to its subscribers that this decision is binding on it. The statement added that the Iraqi government, which approved the law after the approval of the Iraqi parliament has embarked upon the application of the tax law, starting from this August 1, according to the Council of Ministers issued a decision in May last month. Article 33 of the general budget of the Federal Law No. 2 of 2015 passed in the end of January this year of Executive information No. 5 issued in 04/05/2015 the imposition of sales tax on mobile phones refill account cards for all lines as well as Internet services by 20%. Zain Iraq made it clear that as a result of the application of this law, this will not enter into its accounts and will not benefit from imposing the tax but on the contrary it will affect its sales and revenue, our company's role is only limited to the collection and supply of tax to the Finance Ministry by the General Authority for taxes. The mobile phone companies, announced last Friday the start for the imposition of 20% as a "sales tax" on cards and electronic refill cards for mobile phone companies, and the decision to impose the tax is applied due to the decision of the Ministry of Finance. Iraqis have protested on the start of the decision to impose a 20 percent tax on refill cards for mobile phones through the pages and social networking sites

Consolidation in Italy as Wind, 3 ink €21.8bn merger

Telcos announce 50:50 joint ventures that will be led by current Wind CEO Maximo Ibarra. Hutchison Whampoa and Vimpelcom have agreed to merge their Italian telecoms businesses in a deal valued at €21.8 billion. After months of speculation and an indication earlier this week that a deal was imminent, the pair made the announcement on Thursday, noting that the combination of Wind and 3 Italia would create a stronger competitor with 31 million mobile customers. "This joint venture will give



the combined business the scale and strength to offer Italian consumers and businesses a state of the art network with greater 4G coverage and higher speeds," said Canning Fok, managing director of 3 Italia's parent company CK Hutchison. Jean-Yves Charlier, CEO of Vimpelcom, expressed similar sentiments. "The two entities will become a leading operator in Europe's fourth largest telecoms market, delivering a convergent player that will accelerate the ability to invest in the network, services and digital innovations," he said. The parent companies will combine their Italian businesses into a 50:50 joint venture. Valuing Wind at €13.9 billion and 3 Italia at €7.9 billion, the companies said the total deal value comes in at €21.8 billion, making it one of the largest M&A deals in Italy since 2007. The companies did not comment on the likely brand name of the new entity. The firms said that together they have more than 31 million mobile customers and 2.8 million fixed-line customers, of which 2.2 million are fixed broadband subscribers. Those figures mean the merged entity is likely bigger than incumbent TIM in the mobile space – it had 30.1 million customers at the end of March, and is due to report mid-year figures on Friday – but it remains some way behind in the fixed-line market. Wind and 3 Italia's combined revenues in 2014 came in at €6.4 billion. The business is expected to generate capex and opex benefits with a net present value, less integration costs, in excess of €5 billion, the operators said. Wind CEO Maximo Ibarra will serve as the chief executive of the combined company, while 3 Italia CEO Vincenzo Novari will become senior adviser for Italy to CK Hutchison and will serve as a CK Hutchison nominee on the joint venture's board. There will be six board members in total, three nominated by each parent company. The firms said the role of chairman will pass back and forth between them every 18 months. Dina Ravera, 3 Italia's COO, will lead the merger integration process and will remain in a senior operating role in the combined business. Stefano Invernizzi, current CFO of 3 Italia, will become CFO of the combined business. The deal requires regulatory approvals, including the go-ahead from the European Commission. The telcos said they expect to close the merger within 12 months.

Wrong regulatory model can impede investment in rural broadband

Rural telcos are pushing back against the FCC's proposed new model for cost recovery that they say creates unpredictable swings in the smaller companies' ability to fund their broadband build outs. In trying to move forward with funding of broadband-only networks, the Federal Communications Commission (FCC) has proposed a bifurcated approach that applies a cost recovery model to all forward-looking broadband-only networks. What the agency plans to use is a complex model, known as the Alternative Connect America Cost Model, or A-CAM for short, to determine how rural telcos can recover the costs of their investment. But there is such concern about the unpredictability of A-CAM among rural carriers that some are delaying their investments altogether, according to leaders of NTCA - The Rural Broadband Association. Their concerns were spelled out in a letter sent to the FCC earlier this summer, which you can see [here](#). The key problem, says NTCA's CEO Shirley Bloomfield, is that the FCC is trying to use a model it developed for so-called price cap telecom service providers -- the 12 largest US carriers, whose regulated service rates are capped -- and apply it to smaller companies, known as rate-of-return companies because their rates are still set by a process that takes into account how much money they spend to provide service. While the model's uneven results may work out when applied to a large service territory, she says, when they are applied to small telco footprints, the unpredictable swings in ability to recover actual costs could cripple rural broadband deployments, which is exactly the opposite result to what the federal government is seeking, she notes. A-CAM also seems to have little connection to actual costs. When the NTCA compared A-CAM results with the actual capex costs of 144 real-world fiber-to-the-premises projects, the difference between A-CAM's capex results and the actual project costs differed by more than 20% in one direction or the other, according to the association. The model is intended to provide a "forward-looking" way of allowing telecom service providers to move

away from regulated voice and into the era where broadband is the key service. And many rural carriers would actually like to take this approach -- which right now is a voluntary move on their part -- if a more predictable and practical model can be developed. Under A-CAM, there is almost no way to predict funding changes for her association's members, which includes small rural telcos and co-ops or cooperatives that are actually owned by the customers they serve, Bloomfield tells Light Reading in an interview. In some cases, companies that have already invested in fiber and next-gen systems would see their funding jump, while those still needing to deploy fiber to reach the FCC's minimum broadband requirements would face funding cuts, making those deployments less likely. In general, two-thirds of the NTCA's members would see changes in funding of 50% or more, in one direction or the other. "When you have a model where the results swing so wildly back and forth -- some companies would get much more than under an actual cost system and some would be taken down nearly to zero -- you have to ask what is going on in this particular model," she says. "Regardless of whether it is voluntary or not, let's have a model that makes sense and have some rational results." Bloomfield points to less use of Rural Utility Service loans this year -- a significant portion of available money went unused this year -- as an indication of how uncertainty is affecting her members. They aren't as willing to borrow money to build out fiber networks, because they aren't confident they will be allowed to cover those costs, and thus pay off the loans. At this point, there is no final decision on the proposed model or even the bifurcated approach, which is why the NTCA and other rural telco allies in Washington are pushing hard for their members to make their voices heard with the FCC and with their Congressional representatives. They have found some support in Congress already: At a time when it's hard to get consensus on anything in Washington, the NTCA and its rural allies got 61 senators to sign a letter to the FCC, urging the agency to decouple broadband and phone regulation -- a major point at a time when consumers are increasingly cutting the wireline cord. Bloomfield tells her members she'd like to get FCC Chairman Tom Wheeler's attention on this issue,



something that hasn't yet happened but could be in the cards. Wheeler is a keynote speaker at the NTCA's fall meeting in Boston September 19-23.

ACMA Boosts its Spectrum Auctions Capabilities

The Australian Communications and Media Authority has signed a multiyear contract with Power Auctions for the provision of software capability for conducting spectrum auctions. The first use of Power Auctions' software is expected to be for the upcoming auction of regional 1800 MHz spectrum, scheduled to commence in



late November this year. This auction should facilitate the expansion of 4G mobile broadband services in regional Australia, leading to better mobile services and more choice for regional Australians. Power Auctions, headquartered in Washington DC, USA, specializes in providing software and consulting services for online high stakes auctions. Power Auctions provided the combinatorial clock auction (CCA) capability to the ACMA for the \$2 billion digital dividend auction in April 2013. 'I am really pleased that the ACMA and Power Auctions will continue our great working relationship,' said the ACMA Chairman, Chris Chapman. 'The newly acquired spectrum auction software will better enable the ACMA to conduct auctions of highly valued radiofrequency spectrum, which will ultimately benefit Australian industry and consumers to access new technologies and services.' Spectrum is a finite natural resource and in many bands demand from industry may exceed supply. When this happens, the ACMA typically allocates spectrum by auction. This provides a transparent

process to establish a market price, ensuring licenses are allocated to those who value them most highly. The contract with Power Auctions provides the ACMA with ongoing capacity to conduct online spectrum auctions at short notice, using either the English open outcry or simultaneous multi-round ascending (SMRA) auction methodology. There is also an option to procure other flexible and innovative auction designs if required by the ACMA.

U.S. court to hear lawsuits over 'net neutrality' in December

A U.S. appeals court will hear oral arguments on Dec. 4 in lawsuits that challenge the Federal Communications Commission's "net neutrality" rules, which prevent broadband providers from blocking or slowing Internet traffic, the court said. USTelecom, a trade group for broadband providers, and other opponents of the rules sued the FCC this year, saying the commission violated various laws, regulations and procedures when it passed the rules. The dispute is being heard in Washington by the U.S. Court of Appeals for the District of Columbia Circuit.

Spectrum rebalancing and balancing the books

Orange, Numericable-SFR get green light to roll out 4G at 1800 MHz, but they will have to hand back spectrum next year. France this week gave the go-ahead for Orange and Numericable-SFR to reform their 1800-MHz spectrum for 4G as part of a process that will see it rebalance the allocation of frequencies in that band. The reshuffle of spectrum holdings will see the pair cede airwaves to smaller rival Free Mobile; Bouygues Telecom – whose license was amended 18 months ago to remove the 2G-only restriction on 1800 MHz – has already handed back some 1800-MHz frequencies that were allocated to Free and will return more next year. Essentially, the regulator plans to roughly even out spectrum holdings in the 1800 MHz band within the next year. Under a plan it outlined in 2013, Orange, SFR and Bouygues Telecom will each hold

20 MHz of 1800-MHz airwaves by 25 May 2016, while Free will have 15 MHz. At the start of the process, Free did not hold any 1800-MHz spectrum. However, it currently holds 5 MHz, having been awarded frequencies at the start of the year that were returned by Bouygues Telecom as part of a deal struck between the latter and telco regulator Arcep. Under the terms of the agreement, Arcep gave the green light to Bouygues to offer 4G in the 1800 MHz band from October 2013, and Bouygues agreed to an interim step in the rebalancing process that reduced its 1800-MHz holdings to 21.6 MHz from 26.6 MHz. France's mobile operators have been locked in battle since the launch of Free three and a half years ago, but quarterly results announcements from some of the key players this week showed early signs that fierce competition could be abating. Orange beat analysts' expectations in its Q2 numbers, as its European recovery continued. It returned to revenue growth, excluding the impact of regulation, for the first time since 2011. Group turnover came in at €9.9 billion. In its home market the telco reported a slowing mobile service revenue decline in the first half of the year, while its mobile customers grew by 2.2% over 12 months to 27.5 million at the end of June; 83% were contract customers, up from 78.8%. Meanwhile, Numericable-SFR swung to a net profit of €79 million in the three months to the end of June, and also showed improving revenue trends. Its customer base declined, but the telco insisted it is focusing on high-value customers and ARPU growth; its average revenue per user for mobile customers crept up by 0.4% to €26.1. Free Mobile's parent company is due to report its first half numbers at the end of August. And if recent reports are anything to go by, it will show a growth rate that will be the envy of its larger rivals. In Q1 the operator posted an 18.5% year-on-year increase in mobile revenues to €438 million, while its customer base expanded by 420,000 during the three months to reach 10.53 million at the end of March; it claims a market share in excess of 15%. The additional 1800-MHz spectrum coming its way will be a boon for Free, which is under pressure to roll out more of its own network and rely less on roaming deals with its rivals. It aims to cover 90% of France's population by January 2018.



Nokia and Alcatel-Lucent's merger gets clearance from European Commission

It said the transaction would not raise competition concerns, in particular because the two vendors are not close competitors and since a number of strong global competitors will remain active after the transaction. Despite the merged entity having combined market shares around or above 30 percent for several specific types of



equipment, the Commission said the overlaps between the two companies' activities are "effectively limited". It also noted that there are "several other strong players", including Ericsson and Huawei, and said it was expecting Samsung to gain market share. The Korea-based smartphone manufacturer is "expected to play a more significant role in the near future", the Commission said, particularly in 4G and 5G tech. Further, the tie up would not make it harder for new or small players to enter and expand in the market, nor significantly change the market structure to make coordination between other vendors easier, according to the Commission. The United States Department of Justice (DoJ) waved the deal through last month. Nokia confirmed that it has received further antitrust clearances from Albania, Canada, Colombia and Russia. Authorities in Brazil and Serbia have previously given their approval. The Finland-based vendor's shareholders still have to approve the deal. Nokia and Alcatel-Lucent confirmed plans to merge in April in a €15.6 billion deal. The transaction is expected to close in the first half of 2016.

Government private telcos look to harmonize 1800 MHz spectrum

At least 5 MHz of 1800 MHz band of spectrum each in all the 22 telecom circles in the country is likely to be made available for commercial use by harmonizing 1800 megahertz (MHz) of spectrum in the 1710-1785 MHz band. The defense ministry and the telecommunications department have been holding regular meetings with the representatives of private telecom companies for the past two months to effectively harmonize 1800 MHz of spectrum in the 1710-1785 MHz band, which could be put up for the next round of auction, a top government official told FE. "There are some overlaps and unused spectrum scattered amongst private telcos and armed forces that could be effectively used through harmonization. Some operators are not cooperating but we are working on it. The process is a bit cumbersome and so it may take some time. But in the worst case, we hope that this would be made available any time early next year," said an official. Another official explained that by harmonizing the 1710-1785 MHz band, "We expect to release at least 110 MHz of spectrum — at least 5 MHz each in 1800 MHz in each telecom circle by early next year." At least 26.4 MHz of 1800 MHz band of spectrum along with 20 MHz of 800 MHz band of spectrum and 12.4 MHz of 900 MHz band of spectrum of telecom companies are expiring in early 2017. In the 1800 MHz band, 4.4 MHz each of RCom's Gujarat circle, TTSL's AP circle, TTSL's Maharashtra, TTSL's Mumbai circle, HFCL's Punjab circle and 2.2 MHz of MTNL's Mumbai circle are expiring early 2017. On the other hand, while there is an uncertainty over the auctioning of 35 MHz of 700 MHz band of spectrum, the department of telecom (DoT) and the defence ministry are working out the modalities for swapping 1900 MHz band of 2G spectrum with 2100 MHz of 3G spectrum, as reported earlier by FE. Top DoT sources said in all likelihood, the government may partly auction 700 MHz band of spectrum, but that too will be evaluated only after assessing if private telcos would be interested in buying it. The decision in this regard would be taken only by the year-end, said an official. The 700 MHz band airwaves are considered more

efficient than any of the bands — 800 MHz, 900 MHz, 1800 MHz, 2100 MHz and 2300 MHz — allotted in India so far and have better propagation characteristics, which means better coverage and faster data speed.\

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New telecoms rules to force three countries to change laws

New rules for Internet providers across the European Union could weaken existing laws for downloading data in the Netherlands and Slovenia and eliminate an adult content filter for pornography in the U.K. The telecoms single market rules, approved June 30, will go before the full European Parliament for a vote this fall. If the



legislation gets a green light, it will trump existing national laws. In addition to the porn filter, the most controversial omission from the rules is a ban on Internet service providers from giving customers access to certain earmarked content, without counting it against their monthly limits for downloading data. This is also known as “zero rating.” That could mean that, by December 31, 2016, the Netherlands and Slovenia will have to change their laws, which currently do not allow Internet service providers to favor one type of content above another. Both countries voted against these elements of the net neutrality provisions in Council on July 8, but their voices were overwhelmed by the majority. “We are disappointed. For us, this is a step back for both consumers and companies,” said a Dutch source

who requested anonymity as he was not authorized to speak to the press. Likewise, a person close to the Slovenian negotiators said, “We would like to keep our national rules. But okay, this is how Europe works.” Why is zero rating an issue? Telecoms companies say zero rating is good for customers, because it offers unlimited access to apps or services without needing to worry about data download limits. In the opposite camp, consumer groups and net neutrality advocates argue the practice distorts the market and is anti-competitive, because telecoms tend to exempt their affiliated content from the data limits, but not their competitors’. “Such exemptions enable the largest telecoms operators and content providers to continue to shape the market to the detriment of consumer choice,” said Monique Goyens, head of consumer organization BEUC. The fight apparently is not over. “I have pushed for stronger and clearer wording, including a ban on zero rating, however the Council had very different ideas,” said Marietje Schaake, Dutch member of Parliament for the Alliance of Liberals and Democrats for Europe. While the telecoms reforms don’t ban zero rating, they don’t explicitly allow it. And there is a provision that lets national regulators intervene in the case of market distortions and consumer harm. If large telecoms players are offering zero-rated content and there is limited consumer choice, the Slovenian and Dutch authorities may act to ensure a level playing ground. “They may use that discretion to challenge zero rating, especially when consumers are disadvantaged,” Schaake said. Several MEPs said they will continue pushing for a zero-rating ban. “Further initiatives against zero rating are urgently needed,” Petra Kammerevert, a German MEP from the Socialists & Democrats, said in a statement. “Combating such business practices, especially in the wake of increasing vertical integration of the companies ... needs to be addressed quickly.” Despite the best efforts of U.K. Conservatives in the Parliament, the EU-wide regulation will put an end to Internet service provider-level filters for adult content, which will mean new U.K. laws by the end of next year. Currently in the U.K., the major ISPs give users the option to block pornography or gratuitous violence. Consumers are prompted to choose whether to turn on the blocking filter

when they first use their Internet connection. While an exception for parental blocking tools was debated, it was not included in the final text.

EU telecoms reforms take leap forward

A package of EU telecoms reforms to secure open Internet access and ban mobile phone roaming charges moved closer to fruition after the Council approved a deal struck with the European Parliament. The text has now been given the nod by the permanent representatives of the 28 EU countries, and will be put to a vote in Parliament later this year, likely September or October. But while all sides of the political spectrum and interest groups were relieved that a deal had finally been clinched — it took almost two years — there are still concerns over the potential for patchy implementation and a lack of clarity on key elements. “The text is unclear in many cases, and that creates the risk that loopholes will be used by lawyers of major companies, to advance their interests,” said Marietje Schaake, Dutch member of European Parliament with the Alliance of Liberals and Democrats for Europe. On roaming, while the telecoms industry is not entirely happy, there are no surprises. After a transition period when costs will be capped, a full ban on charges will start June 15, 2017. If wholesale costs are higher than retail, telecoms operators can plead their case to national regulators for permission to recoup them. “The roaming rules are relatively fine,” said a telecoms source who requested anonymity. “Not because people like that they will have to scrape one or two percent of their revenues from their balance sheet at the end of 2017, but because it’s a debate that has been going on for so many years and was such a bad topic for the industry.” The net neutrality reforms, which secure open Internet access for Europeans and require all categories of traffic to be treated equally, are more complicated. Digital rights activists, who blasted previous versions, are on board with the final text. They say Parliament’s negotiators ensured most of their earlier worries were addressed. “The Parliament appears to have done [in the fourth trilogue] what we were calling on them to do for some time, which was to try to get some sort of coherence



into the text," the executive director of European Digital Rights (EDRi), Joe McNamee, told POLITICO. "If you read the text, the general principles of net neutrality are respected," said Estelle Massé, a policy analyst at Access, a pro net-neutrality group. "There is no possibility of a slow and fast lane." Indeed, the new EU rules will be tougher in some respects than those introduced in the U.S. by the Federal Communications Commission earlier this year. For example, the final EU text provides tight guidelines for special services, those like e-health that may require higher-quality or faster Internet access. The rules allow Internet Service Providers to treat this type of traffic differently, but only if it is necessary for the services' functioning and is not being used to circumvent the rules on non-discriminatory treatment. Some experts have interpreted the equivalent part of the U.S. laws as being too vaguely worded. However, both McNamee and Massé expressed disapproval that the regulation does not address the issue of zero-rating, where an operator offers free data for a specific service, for example its own video-on-demand streaming service, but not for its rivals. Several MEPs are also miffed that they lost their fight for a zero-rating ban. "We will still have to vote on the text and this can be amended. So the last word has not been said about [the telecoms package]," said Schaake. Zero-rating is currently banned in two EU countries: the Netherlands and Slovenia. Whether those countries will be able to keep that ban is in doubt. Pilar del Castillo, the Parliament's rapporteur for the telecoms package, said the laws could stay. But a source from the Latvian camp, in the presidency chair before Luxembourg took over on July 1, told POLITICO the laws would have to go after a grace period. This confusion is likely to persist. "It is too early to tell what the final impact will be, and what room for national interpretation there may be," Schaake said. "Only after the entire cycle is over and the final vote has been taken, can we really know how the Netherlands and Slovenia might be impacted." Both Access and EDRi also expressed concern over the potential for patchy enforcement, with the strength of the net neutrality rules riding on the willingness of national regulators to apply them. This is one area where net neutrality advocates and telecoms agree. Telecoms industry types are also concerned this will mean certain

regulatory authorities, like those in the Netherlands, are likely to be stricter than others, such as those in the U.K.

MNP another step in telecom revolution where the customer wins

In the 1990s people would fish out their mobile phones when they sensed enough onlookers, such as at a wedding reception. In those days, it was irrefutable evidence of your social

— to a different operator or city. So far this could be done while switching operators within a circle. Many Indians love numbers, in a different way from loving data. Some go the extra mile, and pay extra money, to obtain a vehicle or mobile number that is just what the numerologist ordered, or one that sounds plain fancy. Earlier, if they retained their mobile number while living in a city outside their circle, they would end up paying higher call charges — incoming would be charged, too. The consumer, therefore, scores again with full MNP.



standing. At Rs 16.80 a minute, call rates made sure of that. Mind you, the same charges applied on incoming calls too. Mobile telephony has come a long way since then and emerged as one of the few industries in which there are many winners. It has made life easier (did we actually manage to receive relatives at New Delhi Railway Station without a mobile phone?). All sorts of occupations, not least the small traders, have benefited. Ola and Uber could not have existed without the mobile phone. And of course big companies and businessmen have emerged. Interestingly, corporate prosperity has risen as companies have provided better facilities and care to consumers. Not always through their own initiative and not always willingly. A lot of it was driven by regulation and competition. Incoming became free, call rates crashed, convenient pre-paid packages came in and handsets, including smartphones, became truly affordable. Now comes full mobile number portability (MNP). From last Friday, you can take your mobile number with you wherever you go

For all the advances in technology and features, mobile phone companies have not exactly set the standards in customer service. But regulation has generally backed the consumer. Of course, the operators will not be delighted with this, although each has put out attractive offers for those who want to migrate, especially because, as this newspaper reported, full MNP could be a precursor to free roaming. That will mean the loss of one more source of revenue at a time when the SMS, once a money spinner, is ailing and debt on the companies' books has surged due to expensive spectrum. But the march of technology did not stop in spite of the stiff opposition mounted by the horse-drawn carriage lobby when trains arrived.



To cooperate, or to coordinate: alternative operators' FTTx dilemma

Operators' commercial propositions come to terms with high speed/low latency broadband access adoption largely driven by mainstream 'data hungry' behaviours (video/TV, OTT, online gaming, simultaneous multi-user/multi-device usage, etc.), which require significant irreversible investments in next generation access (NGA) infrastructures.

In the 90s, cable operators invested significantly in developing proprietary HFC* (Hybrid Fibre Coaxial) access infrastructures with a business model built around pay-TV as anchor service which has driven multi-play adoption (DOCSIS high speed broadband). However the lack of diverse ecosystem (OTT in particular), and prematurity of demand have attempted the sustainability of such models and related investors' returns; many players suffered significant losses and even faced bankruptcy.

New entrants and alternative operators seem to have learnt the lesson now. Today investments are transforming traditional telecoms infrastructures into scalable and integrated / hybrid (fixed

and mobile) networks, with fibre (FTTx) and 4G technologies being used in synergy in the context of operators' ultra-broadband strategies. Operators are carefully offering tailored 'consumable' (e.g. family centric) and convergent 'data-centric' offers (in mobility and at home) in order to exploit fixed-mobile synergies and to address diversified (ultra-)broadband needs, avoiding the risk of cannibalisation/substitution and maximising the monetisation of selected/gradual network investments.

In order to lower risks associated with infrastructures, alternative operators are increasingly seeking ways to reduce the size of such investments. In fact, investments – especially in fixed access infrastructures – can be sustained only by a very small number of operators: investments are sought mainly to sustain the business within a medium-long time horizon in the context of 'wearing thin' traditional business models. The advantages of rolling out proprietary infrastructure – vs. procuring 'per user' wholesale products – will allow operators to tailor flexible and competitive retail



Federico Torri
Manager
Analysys Mason

offers, ultimately leading to important competitive advantage.

FTTx coverage today is still limited largely due related high deployment costs and a demand not fully materialised yet; public policy and/ or regulatory bodies aim to promote FTTx infrastructure based competition by alleviating barriers to roll-out and providing appropriate wholesale tools. Nonetheless standalone viability of FTTx roll-out is largely contingent upon scale of the operator in a certain area, with roll-out taking place initially in economically viable areas only: affluent / high dense areas where unit cost of deployment are lower and take-up / market share expectations are favourable.

Alternative players with lower 'scale' are typically interested in targeting the same areas. Co-operative deployment ('co-deployment') in order to 'share' roll-out costs and to mitigate demand related risks is certainly suitable in areas where each operator has an

interest, however areas where such interest is not uniform might be excluded, being subject to outside-in (independent and external) decision mechanisms.

Traditional co-deployment initiatives are typically complex to manage (especially if asymmetric), and fragile/ subject to unexpected future changes which significantly limit medium/ long-term visibility (especially vis-à-vis irreversible nature of network investment).

More realistically operators aim to ultimately reach sufficient 'scale' to enable co-ordination between

- roll-out plans (maximise viable coverage/footprint) and
- commercial strategy (exploit national level marketing / branding).
- A co-ordinated roll-out strategy established, for instance, around an independent/separate wholesale only operator which

rolls-out a fibre infrastructure and sells wholesale services to operators' retail division depending on their actual needs, should be able to reach a relevant 'scale' condition and to align different parties' objectives by

- turning viable investment in areas where operators would not have considered to roll-out standalone (see Figure 1),
- facilitating independent evaluation on users' migration strategy by each operator participating, eventually making the compensation based on actual consumption of relevant fibre services by the parties

Area	Standalone decision				Co-operative decision				Co-ordinated decision			
	Op. 1	Op. 2	Op. #	Out.	Op. 1	Op. 2	Op. #	Out.	Op. 1	Op. 2	Op. #	Out.
1	GO	GO		GO	GO	GO		GO	GO	GO		GO
2	GO	NO-GO		OP1 GO	GO	NO-GO		GO*	GO	NO-GO		GO**
3	NO-GO	GO		OP2 GO	NO-GO	GO		OP2 GO*	NO-GO	GO		GO**
4	NO-GO	NO-GO		NO-GO	NO-GO	NO-GO		NO-GO	NO-GO	NO-GO		GO**
#	---	---		---	---	---		---	---	---		---

* Subject to external decision-making mechanism
 ** Subject to independent decision-making mechanism

Figure 1: Possible decisions' outcomes [Source: Analysys Mason, 2015]

In this context, operators should seek appropriate models enabling demand aggregation (at 'wholesale' level) as well as customer base migration (at 'retail' level) from legacy to NGA networks, which represent necessary 'variables' in the equation for a successful FTTx roll-out.



▼ A SNAPSHOT OF REGULATORY ACTIVITIES IN SAMENA REGION

REGULATORY UPDATES

Algeria



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

Minister of Post, IT and Communications, Iman Houda Feraoun, has disclosed that a new postal and telecoms bill will be drafted by the end of the year. The proposed legislation will replace Telecom Law 03-2000 of August 5, 2000, which provided for the establishment of state-owned fixed line operator Algerie Telecom (AT) as the country's sole fixed line operator. Some of the proposed changes include an obligation for AT to open its unbundled local loops to alternative operators; under the current law, the incumbent operator is not obliged to provide its competitors with access to its network infrastructure. The first draft of the bill could be presented to the government by the end of 2015. In December 2012 the Algerian Council of Ministers approved revisions to the telecoms law which, if passed by parliament, would enable third-party providers to offer broadband services using AT's network. The government submitted the amendment bill to the National People's Congress (NPC) in February 2013, though it was subsequently withdrawn from the NPC without adoption in October. Meanwhile,

the lack of local loop unbundling (LLU) was arguably the main reason behind the demise of second national operator (SNO) Lacom in November 2008, with the company required to roll out its own fixed-wireless access network (contributing to its financial woes) rather than being allowed to use unbundled local loops from the incumbent.

(August 11, 2015) Tout sur l'Algerie

Bahrain



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

Telecommunications Regulatory Authority (TRA) held a workshop at its headquarters on Annual QoS Drive Test Audit. The workshop which was attended by the concerned local operators and consultants from Ascom Networks Testing, who have been chosen this year to carry out the audit, in addition to TRA's concerned staff, aimed at briefing the methodology of the Annual QoS Drive Test Audit which will start from the end of August for a period of three months, said a statement. Mohammed Alnoaimi, director of technical and operations, said: "In line with the guidance of the Supreme Committee for ICT for continuous monitoring to provide



the best high-quality telecommunications services and the authority's service quality improvement vision and the continuous monitoring of QoS in the kingdom, the Authority has kicked off this year's Annual QoS Drive Test Audit by meeting the concerned local operators and the consultants to ensure transparency with the operators. "In addition to every year's benchmarking report, which the authority publishes for the consumers and the industry, a portal will be made available this year to further explain the technical report in a more consumer-friendly manner that may be used by the general public through the Authority's website. "This will allow consumers to identify operators' service quality in all areas around the kingdom by referring to the audit information." The audit will be carried out over a total of 1,000km of the kingdom's streets covering mostly populated and newly developed areas, in addition to some vital areas that are often densely populated.

(August 19, 2015) tradearabia.com

Telecommunications Regulatory Authority (TRA) Bahrain held a two day training course for the Authority's staff on the subject of Information Security Awareness. The course was aimed at informing staff members with the latest best practices to safeguard them and their workplace from breaches of security. The course covered advice and guidelines to follow in order to avoid such breaches that can either occur on their computers such as phishing, hacking and viruses or risks of leaving themselves exposed to other malicious attacks due to easy access of information, which was also supplemented by real life examples and statistics. Presenting for the Authority were Mr. Niranjan Acharya, Mr. Bader Kamal & Mr. Sohaib Amin of Stride IT consulting, a full service information technology consulting firm based in Bahrain.

(July 8, 2015) tra.org.bh

Bangladesh



Chairman: Sunil Kanti Bose

[Bangladesh Telecommunication Regulatory Commission (BTRC)]

Bangladesh's largest WiMAX broadband operator by users Banglalion Communications appears to be finally nearing its delayed launch of 4G LTE technology, as it announced the selection of Alepo's LTE convergent charging and billing platform. The new system will support Banglalion in offering competitive LTE data offers, with features such as data rollover, family and shared data plans, emergency top-ups, loyalty rewards and more, a press release stated. Banglalion is combining its WiMAX and LTE services onto a single, convergent platform for cost savings and flexibility between the two technologies. The operator previously deployed Alepo's charging/billing solutions for its WiMAX network in 2009. Ekhlash Uddin Ahmed, CTO of Banglalion, said: 'Our continued partnership with Alepo ensures that we are able to lead the mobile broadband market in a way that is also cost-effective and assuring of our investment.' Dan Stern, vice president of sales at Alepo, added: 'As the 4G LTE market in Bangladesh emerges rapidly, we are proud to be a partner of Banglalion and to ensure the company's continued competitive advantage and market success.' In August 2014 Banglalion and Chinese equipment provider Huawei Technologies signed a 4G LTE network upgrade and expansion agreement, and

issued an initial target of commercial launch by end-2014, although this has been delayed. Another Bangladeshi mobile WiMAX network operator Augere Wireless Broadband (Qubee) signed an agreement with Alepo in October 2014 for a new business support system (BSS) to enable it to deliver more advanced services to its mobile broadband customers as it develops its LTE-based product range. Qubee is also thought to be rolling out LTE with main vendor Huawei. Rival broadband wireless access (BWA) licensee Olo, meanwhile, has contracted another Chinese vendor, ZTE, to deploy an FDD-based LTE mobile broadband (data-only) network spanning over 1,100 base stations. (July 29, 2015) teleogeography.com

Egypt



Acting Executive President:

Eng. Mustafa Abdul Wahid

[National Telecommunication Regulatory Authority (NTRA)]

Communications and Information Technology Minister Khaled Negm said that the government is issuing the mobile phone service license for Telecom Egypt in the first quarter of 2016 when 4G network service is introduced in Egypt. The new license would allow Telecom Egypt, the public landline monopoly, to compete with the three mobile providers such as Etisalat, Vodafone and Mobinil. In 2008, Mobinil was the first to launch the 3G service in Egypt. Negm added that the National Telecommunications Regulatory Authority is also considering new licenses for high-speed Internet services. (August 24, 2015) egyptindependent.com

Egypt is looking to add 500,000 new Internet users by the end of 2015 and increase its internet penetration rate to 50 percent from 34 percent by the end of 2016, communication minister Khaled Ali Negm said. The communication and information technology ministry mandated reduced prices at the start of August as part of its plan to expand Internet access across Egypt and improve speeds. "Every 10 percent increase in Internet penetration increases Egypt's gross domestic product by 1.8 percent," the minister told Reuters in an interview. The ministry hopes to add 1.5 million additional users by the end of 2016 to its current base of 3.4 million ADSL broadband users and increase the minimum speed to 2 megabits per second from the 1 megabit per second currently offered, he said. Since the lower prices came into effect at the beginning of August, 31,000 new Internet subscribers have come online. "By the end of 2016, the Internet in Egypt will look completely different," Negm said. Egypt will also begin offering 4G mobile services in the first quarter of 2016 and allow Telecom Egypt, the country's landline monopoly, to become the country's fourth mobile provider, the minister said. The government approved a unified license last year, opening the way for Telecom Egypt to offer mobile services in competition with Vodafone Egypt, Etisalat and Mobinil, but implementation has been delayed repeatedly. Asked about whether Telecom Egypt, which is 80-percent government owned, would have to sell its 45-percent stake in Vodafone in order to participate in the unified license, the minister said: "We will preserve the company's assets and maximize them," but did not elaborate. (August 17, 2015) telecom.economicstimes.indiatimes.com



Iran



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

Minister of Communications and Information Technology Mahmoud Vaezi has said that when Hassan Rouhani took the office (in mid-2013) the Internet bandwidth was 620 gigabytes per second (GB/s), but the figure is currently about 2,400 GB/s. "Some 8,000 villages were connected to the national internet network in the past Iranian fiscal year, ended on March 20, he said, adding that the figure will be increased to 25,000 in the current year. Currently there are 20 million Iranian Internet users. Vaezi said that expanding and development of Internet services, information and communications technology (ICT), satellite and cosmic technologies are Iranian government's priorities. "There technologies can be used in agriculture, health, education, trade, industry and other spheres". The Iranian minister said that during Rouhani's Administration the government approved access to a free information plan. He also said that above 90 percent of Iranian villages (48,000) enjoy telephone services. Coming to international sphere, he said Iran has developed both software and hardware technologies and increased the exports of high technologies. Exporting software programs as well as applications increased, while the tablets and cell phones, produced by Iranian GLX has been exporting increasingly to the regional countries, especially Iraq. Iran exported \$200 million software programs during last fiscal year. He also said that Iran producing and exporting fiber optical fiber is "In overall, a new wave of development in information technology sphere started in Iran". Coming to the sanctions' affect on Iran, he said, "Blocking money transactions, lacking Iranians access to SWIFT as well as obstacles en rout of presenting and competing in foreign tenders were Iran's major problems, however after lifting sanctions we expected flowing the investments, increasing the cooperation with foreigners, offering projects for international companies and choosing the best among them." The major world powers (the US, UK, France, Russia, China, and Germany) and the Islamic Republic of Iran reached a long-awaited comprehensive deal called the Joint Comprehensive Plan of Action (JCPOA) on July 14. (August 21, 2015) [zawya.com](#)

Iraq



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

Serbia and Iraq signed an agreement on cooperation in the field of telecommunications between the two countries. The document was signed by Serbian Minister of Trade, Tourism and Telecommunications Rasim Ljajic and Iraqi Minister of Telecommunications Hassan Al Rashid. This marked the end of the Iraqi minister's three-day visit to Serbia, during which he toured Serbian telecommunication companies such as PTT Serbia, Comtrade, Iritel, Telegroup, Cable factory in Jagodina, Novkabel in Novi Sad and Mihajlo Pupin Institute in Belgrade. Minister Hassan Al Rashid pointed out after inking the document that Iraq is interested in all forms of cooperation in the sector of telecommunications, import of power cables from Serbia and participation

of Serbian telecom experts in development projects in Iraq. He also voiced hope that a mixed Iraq-Serbian telecommunication company will be established soon to initiate cooperation in other economic activities as well.

(July 29, 2015) [b92.net](#)

Jordan



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

Orange Jordan, the nation's second largest cellco by subscribers, is planning to invest more than JOD300 million (USD421.86 million) between 2015 and 2018 with JOD200 million to be spent on fixed and mobile network infrastructure, the company's CEO, Jean-Francois Thomas, said in an interview with CommsMEA. 'There is a growing demand for data in Jordan, where more than half of the population own smartphones,' the official added, noting 'Telcos need to invest in networks to accommodate the growth in data demand; therefore, focusing on providing quality service is a main drive to increase telcos' growth.' Mr Thomas pointed out, however, that the government's practice of setting a high asking price for spectrum and levying substantial taxes on the sector limited the investment potential of operators. Commenting on the 4G space, the CEO explained that he had changed his mind regarding the market's readiness for the new technology: 'Initially, I thought that it was too early for Jordan to start selling frequencies and starting rolling out the network.' With rival operator Zain rolling out infrastructure, however, Orange was forced to forge ahead with its own 4G deployment. Mr Thomas noted that the penetration of 4G devices in Jordan is only around 6%-7%, but claimed that there is an interest in the new platform. In an effort to foster that interest, and encourage take-up, the cellco has begun offering 4G-enabled smartphones for JOD85 and is running 4G promotions. Elsewhere, the CEO commented that over-the-top (OTT) providers should be seen as a boon to network operators, as their services drive growth by encouraging data usage – especially in the case of video apps. An adversarial approach only serves to delay a solution, the official explained: 'The regulation that some countries are adopting when blocking those [OTT providers], is just slowing the process, because at the end of the day we need to find a solution. We are impacted, because the traditional SMS business was eaten by WhatsApp and the voice services by Skype, for example. We are [now] offering bundles with voice, SMS and data ... [and] we have stopped counting the minute by the minute or SMS by SMS.'

(July 28, 2015) [telegeography.com](#)

Kuwait



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

KKuwait telecom giant Zain's net profit in the second quarter slumped 34 percent as its businesses were hit by unrest in some Arab countries, the company said. Zain said it posted a net profit of 39 million dinars (\$129 million) in the April-June period from 59.1 million dinars (\$196 million) a year ago. Overall net profit of Kuwait's largest mobile operator in the first six months



also dropped by 30 percent to 80 million dinars (\$265 million) from 115 million dinars (\$381 million) a year earlier, Zain said in a statement. "Zain Group continues to deal with the diverse market and social challenges that it faces to the best of its ability, especially in conflict areas where circumstances beyond our control have impacted our overall key financial results," chairman Asaad al-Banwan said. Zain CEO Scott Gegenheimer said conflict and tough competition in Iraq severely impacted its results. Of the \$265 million net profit in the first half of 2015, the Kuwaiti market contributed a healthy \$166 million. Besides Kuwait, Zain has operations in Bahrain, Iraq, Jordan, Lebanon, Saudi Arabia and Sudan. It also manages a unit in Morocco. Consolidated revenues in the first half dropped 10.3 percent to \$1.86 billion from \$2.1 billion in the same period of 2014. Over the past 12 months, the company's total subscribers dropped slightly to 46.3 million from 46.5 million a year ago. Zain profits have been dropping for three years, with the company blaming currency fluctuations, particularly in Sudan, and new investments for expansion. Zain, in which the government holds a stake of almost 25 percent, is one of three mobile operators in the emirate, alongside National Telecommunications Co (Wataniya) and Kuwait Telecommunications Co (VIVA).

(July 29, 2015) english.alarabiya.net

Lebanon



Chairman & CEO: Dr. Imad Hoballah
[Telecommunication Regulatory Authority (TRA)]

Vodafone is no longer interested in pursuing a contract to run one of Lebanon's two mobile operators, it emerged this week. The mobile operator was one of six parties to bid for the management contracts earlier this year, according to local press reports, but in an email to Reuters on Thursday it confirmed that it has decided not to pursue the opportunity. The Lebanese government owns two mobile operators, Touch and Alfa, which are currently being run by Zain and Orascom Telecom Media and Technology (OTMT), the newswire explained. Those management contracts expired two years ago, but the government has applied various extensions in the interim. After months of delay, the government invited bids for the two management contracts earlier this year and received offers from half a dozen firms, including Vodafone and Zain, but not OTMT, Reuters said, quoting Lebanon's Daily Star. The other four operators were Orange, Maxis, Turkcell and a Deutsche Telekom unit, the paper reportedly said. It added that OTMT failed to submit an application on time. (August 21, 2015) totaltele.com

Telecoms Minister Boutros Harb announced that six international companies have applied to manage Lebanon's state-owned mobile networks, Alfa (currently managed by Egypt's Orascom Telecom Media & Technology) and Touch Lebanon (currently managed by Kuwait's Zain Group), with the results of the tender to be announced on 8 September 2015. The six bidders are Vodafone Group (UK), Orange Group (France), Deutsche Telekom (Germany) via subsidiary Datacom, Maxis (Malaysia), Turkcell (Turkey) and Zain Group. Orascom did not make the list as it reportedly failed to submit its application on time. Winners are expected to commence operations at the end of this year when the current contract extensions expire. (August 10, 2015) The Daily Star

Telecoms Minister Boutros Harb has revealed a five-year plan to deploy high speed fiber-optic broadband infrastructure across the country by 2020. Harb announced on Wednesday: 'Fiber-optic networks will be installed in Lebanon progressively over five years and the country will be totally connected through this technology by the year 2020.' As reported by local newspaper The Daily Star, the minister added that 4G LTE mobile services – currently covering 'around 16%' of the territory – will be expanded to cover the whole country in two years, in preparation for 5G launches around 2020. He continued: 'We have been receiving a lot of complaints regarding the malfunction of the internet connectivity. This is why we need to work hard on developing this project ... The project will cost over USD600 million but it will be fully covered by the budget of the Telecommunications Ministry.' Harb stressed that the cost of implementing the five-year plan would be less than the losses incurred by Lebanon in the absence of such important technology. 'This project will attract foreign investments to Lebanon while providing new job opportunities,' he added. Minister Harb explained that the fiber-optic project involves the creation of an initial fiber network directly connecting to around 15,000 commercial, banking, financial and economic institutions in the first phase, while another direct fiber network will connect homes and offices. Three pilot projects are in progress to evaluate fiber broadband service quality, including a scheme in Ras Masqa (Koura) providing 100Mbps-plus access speeds to pilot users. Harb also revealed that he has allocated money for the upgrade of the DSL network in Lebanon by introducing VDSL2 technology at 36 exchanges in Beirut and other areas, increasing the available internet speeds to between 30Mbps and 50Mbps. '[State-owned telco] Ogero will soon launch an advertising campaign to inform citizens about this [VDSL] service,' the minister announced, while noting that the copper last-mile upgrade was an intermediate upgrade in preparation for direct fiber adoption in the next phase. (July 3, 2015) telegeography.com

Morocco



Director General: M. Azzine El Moutassir Billah

[Agence Nationale de Reglementation des Telecommunications (ANRT)]

Orange has increased its stake in the Moroccan telecommunications operator, M ditel. Through this transaction, Orange has acquired an additional 9% of Méditel's capital and benefits from the rights set out in the December 2010 agreements. As a result, Orange now holds 49% of Méditel's share capital. The Board of Directors of Méditel will now be composed of five members proposed by Orange and four members appointed by the Moroccan shareholders. The company will also be fully consolidated in the financial statements of the Orange group. With more than 13 million mobile subscribers, representing a 31% market share at the end of 2014, Méditel had 2014 revenues of 5.5 billion dirhams (503 million euros(1); growth of +7%), an EBITDA(2) of 1.86 billion dirhams (170 million euros; growth of +18%), and an operating cash flow of 720 million dirhams (66 million euros). The transaction, which has already received the necessary authorizations from the public authorities and the regulator. (July 28, 2015) cellular-news.com



Maroc Telecom has announced that it has enlisted a trio of international vendors to support its deployment of '4G+' (i.e. LTE-A) technology. The suppliers have been named as Nokia Networks of Finland, Ericsson of Sweden and Huawei of China. A media statement from the telco read: 'The choice of multiple vendors is part of Maroc Telecom's strategy to diversify its supply sources to maintain the autonomy and flexibility for future developments'. The 225Mbps 4G+ network is poised to be introduced on a commercial basis today (13 July). At launch, the network will cover provincial centers, major highways and key railway networks. In March 2015 Maroc Telecom paid MAD1 billion (USD102.5 million) for 4G-suitable frequencies in the 800MHz, 1800MHz and 2600MHz bands. (July 13, 2015) telegeography.com

Nepal



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

The Nepal Telecommunications Authority (NTA) has released its latest statistical bulletin covering the month to April 13, 2015. At that date the country was home to more than 22.719 million GSM mobile users – up from 22.850 million three months earlier – split between privately owned Ncell (12.271 million) and government-backed Nepal Telecom (NT – 10.477 million). In addition, NT claimed 1.232 million CDMA-based mobile users, up from 1.170 million at mid-December 2014 pushing overall cellular penetration up to 90.4% at that date. In the fixed broadband sector, meanwhile, NT had 135,721 ADSL subscribers by December 15, up slightly from 135,064 three months earlier, with bigger gains being made in the cable modem sector (up from 47,182 to 67,058) and in the WiMAX market (from 11,102 to 12,409), though a small improvement in other broadband connection types, such as wireless modems and fiber, was registered (from 46,701 to 47,379) following a roughly 20,000 cut in user numbers in the prior three-month period. Fixed voice telephony lines stood at 843,462 at April 13, a teledensity of 3.18%, broken down as 667,974 (PTSN) and 175,488 (CDMA) lines. (July 29, 2015) telegeography.com

The number of subscriptions to telecoms services in Nepal exceeded the country's population for the first time in April, according to new statistics from the Nepal Telecommunications Authority (NTA). The regulator's figures for the month of Chaitra – which in Western calendar terms runs until April 13 this year – show that the country is home to 26.49 million people and 26.87 million telecoms connections. The lion's share is, of course, mobile subscriptions; Nepal's two mobile operators between them had 23.95 million connections, putting mobile penetration at 90.4%. TeliaSonera-owned NCell leads the market, just, with 12.27 million customers and a market share of 51%. Nepal Telecom serves the remainder; it has 10.45 million GSM customers and 1.23 million CDMA customers. There are also a number of other providers offering wireless services via satellite and land mobile systems, including United Telecom, which is owned by a number of local and Indian players including MTNL and Tata; STM Telecom's Gramintel; Nepal Satellite Telecom; and Smart Telecom's Smart Cell. The Nepalese market is growing rapidly. Last year's

report at the same date showed overall teledensity of 88.5% and mobile penetration of 79.1%. Over the past year GSM and CDMA mobile subscriptions have grown by 2.99 million. (July 29, 2015) totaltele.com

Oman



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

Oman Telecommunications Company (Omantel) has acquired additional spectrum in the 800MHz and 2600MHz bands for a price-tag of OMR7.7 million (US\$19.9 million), according to the operator's financial report for the quarter ended June 30, 2015. Omantel says it expects to use the frequencies to boost its deployment of 4G Long Term Evolution (LTE) technology and widen its LTE network coverage across the Sultanate, resulting in improved quality of broadband services. On August 4 the telco's sole rival Ooredoo Oman also announced that it had acquired additional LTE frequencies in the aforementioned bands, at a cost of OMR9.6 million. Omantel and Ooredoo launched 4G services in December 2012 and February 2013, respectively. In other news, the Telecommunications Regulatory Authority (TRA) has reduced the fine it had imposed on Omantel for service interruptions in November last year from OMR5 million to OMR3 million. (August 14, 2015) Times of Oman

Oman's Telecommunications Regulatory Authority (TRA) has reduced the fine amount it had imposed on Omantel for "interruption of service for nine hours on November 17, 2014" from OMR five million to OMR 3 million. As part of the amended decision Omantel will have to pay OMR 1 million in cash and build telecom towers at the cost of OMR 2 million in rural areas. Talking about Telecom Regulatory Authority (the TRA) decision to amend its earlier decision to impose a penalty on Oman Telecommunications Company SAOG (the Company), Omantel in a statement on the Muscat Securities Market, said, We refer to the earlier disclosure concerning the above, and wish herewith to provide that the TRA has amended the penalty amount to read as follows - Omantel to pay a penalty of OMR 1 million in cash and Omantel to build telecom towers at the cost of OMR 2 million to provide voice and broadband services at the rural areas to be determined by the TRA and under its supervision. (August 13, 2015) world.einnews.com/

Ooredoo Oman has acquired additional spectrum in the 800MHz and 2600MHz frequency bands to boost the capabilities of its 4G LTE network. The company paid OMR9.6 million (US\$9.6 million) for the spectrum, which will be used to improve indoor coverage and will lead to significantly faster download speeds. 'One of our aims is to provide innovative and best-in-industry technology and services to our customers,' noted CEO of Ooredoo, Greg Young, adding: 'This new spectrum will significantly boost indoor 4G coverage and enable its cost effective and faster expansion outside of city areas. Our customers will be able to use 4G in many more areas and benefit from higher data speeds... This additional investment future-proofs our network investment with the necessary spectrum to underpin cost effective capacity increases to keep pace with accelerating 4G demand, and the introduction of 4.5G will deliver an



even faster user experience.' The acquisition enhances Ooredoo Oman's extensive network modernization program, which has been underway for the last three years. The company has also recently showcased LTE-Advanced (LTE-A) technology, demonstrating speeds of up to 200Mbps at the Salah Festival.

(August 6, 2015) telegeography.com

Oman is ranked third in the world for countries best prepared for cyber attacks, according to the Global Cybersecurity Index. Oman came in behind the USA, Canada, and shared third place with Australia and Malaysia. Qatar was the next strongest Arab country, with an 8th place ranking. The index was created by International Telecommunication Union and ABI Research. In the report Oman was cited as a country with some of the best organizational practices thanks to its High Level Cyber Security Strategy and Master Plan, and Comprehensive Roadmap. Its strengths include the organizational structure, legal measures, capacity building, technical and procedural measures, and regional and international cooperation. "This could be true because of the role of Oman ITA (Information Technology Authority) and their continuous investment in cybersecurity," said Zaid Rufaie, from Fireware, a local IT security company. The Oman Computer Emergency Readiness Team (OCERT) was launched in 2010 to study cyber threats and risks that could harm both public and private internet users in Oman. According to the report Oman is very active in the field of cyber security and has continuous audits and checks. It also compares itself to other countries to see how well-prepared it is. "Oman also has an agreement with Ernst and Young to conduct a benchmark exercise under the Global Information Security Survey (GISS). The GISS provides organization with an opportunity to compare themselves with others on important information security issues and gain insights for making key decisions through questions relates to security budget, investments, security governance, security effectiveness, maturity of security programs, security environment, and emerging technologies and trends," reads the report. Oman is also doing well regarding IT security education, as the OCERT is working closely with Ministry of Education to introduce Information Security Curriculum in schools. Oman also has about 350 public sector professionals certified under internationally recognized certification programs in cybersecurity, the report stated. Oman also has over 10 partnerships with countries and organizations to facilitate sharing cybersecurity assets, and it has participated in numerous international conferences on cybersecurity, even hosting number of them itself. At the International Telecommunication Union's (ITU) Arab Regional Cyber Security Center in Muscat in March, Dr. Salim Sultan Al Ruzaiqi, CEO of the Information Technology Authority (ITA) spoke about the importance of being prepared for cyber attacks, which can have devastating, costly effects. "Statistics show cybercrimes cost the world's economy around \$445 billion every year and \$150 billion for the loss of personal information such as stolen credit card information," Al Ruzaiqi said, adding that in 2014 the Kaspersky Antivirus Company reported that it deflected 6.2 billion viruses on the PCs and smartphones, one billion more than in 2013. In an interview with Times of Oman in February, Rajat Mohanty, CEO of Paladion Networks Private Limited, a Bangalore-based IT company that specializes in protecting information, said cyber

attacks on information or infrastructure are becoming more sophisticated and harder to defend against, too. Fixed defense systems no longer work well and instead the focus is on increase monitoring for potential threats. "Information Security threats are global in nature. Any company today can get hit, whether by internal or external people," Mohanty said. (July 26, 2015) world.einnews.com

Pakistan



Chairman: Dr. Syed Ismail Shah

[Pakistan Telecommunication Authority (PTA)]

Ministry of IT guided Pakistan Telecommunication Authority (PTA) to make quick moves to address developing number of objections with respect to nature of telecom administrations gave by the telecom service providers. Hence IT Ministry Pays Heed to Poor Telecom Administrations and guided them. As indicated by a handout given, the concerns were communicated about speech quality, call drop, dormancy and session disconnection rates, for the voice brings and information sessions over the legacy 2G and additionally the versatile broadband (3G & 4G) information systems. In the course of recent months, direct customer level complaints and also media reports with respect to decaying QoS of telecoms services, are rapidly on the ascent. The issue has likewise been raised various times amid the parliamentary boards of trustees meetings and the degree of concerns has come to a level where a unique attention is required to enhance the services of Telecom. It is related to specify that not just is the procurement of value services by the licensees commanded by the Act, stringent procurements to this impact and additionally the applicable measurements are incorporated in the licenses issued to the administrators. It merits specifying that QoS is the absolute most essential variable for securing buyer enthusiasm as well as for enhancing certainty of clients for ideal development of the area. The service in like manner has required the power to share an examination report and in addition a complete arrangement for a quantifiable change in nature of consumer experience. (August 5, 2015) phoneworld.com.pk

Pakistan Telecommunication Authority (PTA) and International Telecommunication Union (ITU) together organized three days training course for Afghanistan Telecommunication Regulatory Authority (ATRA) in Islamabad, Pakistan. The fundamental purpose of this training is to build the capacity and skill for licensing and regulation process for the mutual benefits of stakeholders. The training course was to cover the following areas: Need, significance and process of Licensing and service regulation of MNP, VAS and Landing rights; Relevant provisions in the Act, case studies, international best practices in licensing service regulation mechanism; Institutional settings, framework and processes; Considerations to be taken into account while issuing licensing of MNP, VAS and landing rights with the applicable laws; Identifying services come under VAS and Controlling Grey Devices; Identifying materials, which are required for MNP license and Meeting Pakistani Operators. The training course was designed to leverage the expertise of PTA and ITU as well as exchange the experiences from ATRA, Afghanistan to comprehend real life experience from regulator in managing licensing



issues in increasingly competitive ICT sector taking into account principles of technology neutrality, transparency and convergence as well as best practices emanating from ITU Global Symposium for Regulators. Pakistan Telecommunication Authority (PTA) is in the process to Auction licenses for the leftover frequencies in 1800 MHz band and 850 MHz; hence this training course can be a useful step for the relevant industry persons and successful auction of the remaining spectrum. (July 23, 2015)

phoneworld.com.pk

Palestine



Minister of Communications & Information Technology: Dr. Allam Moussa

[Ministry of Communications and Information Technology (MCIT)]

3G phone services could finally be coming to the Palestinian Authority following talks with the Israeli government. Meetings held last week between the two governments led to an agreement in principle and hinged on the Palestinians meeting Israeli conditions, a spokesman for the Communications Ministry told journalists. He declined to comment on what those conditions are. Although the Palestinian Authority has the final say in which phone networks operate in its areas of control, the radio spectrum is allocated by the Israeli government, which has delayed their release for several years. Allam Mousa, the Palestinian Minister of Telecommunication, called the new outline a "breakthrough". "In the last meeting, some proposals were made in accordance with our demands and some amendments were made that could be studied and that could enable us to achieve our demands," Mousa told Reuters. (August 21, 2015) cellular-news.com

Just a few days after the offices belonging to Palestine Cellular Telecommunications Company (Palcel), the region's sole official mobile network operator, were closed by the Hamas-appointed attorney general in the Gaza Strip, Reuters reports that the latter has now re-opened them. No reason was reportedly given for the decision, which was said to have been announced on the attorney-general's Facebook page. Meanwhile, it has been confirmed that services to subscribers remained unaffected during the time the offices were shuttered. As reported by CommsUpdate last week, the office closure came amid claims that Palcel, which offers its services under the Jawwal banner, had not paid its taxes. The operator, which is a subsidiary of fixed line incumbent Palestine Telecommunications Company (Paltel), was quick to reject such claims, saying all relevant levies had been paid to the authorities in the West Bank.

(July 6, 2015) phoneworld.com.pk

The Hamas-appointed attorney general in the Gaza Strip has reportedly closed the offices belonging to the region's sole official mobile network operator, Palestine Cellular Telecommunications Company (Palcel), which offers services under the Jawwal banner. According to Lebanon's Daily Star, the move comes amid claims by Hamas that Jawwal, which is a subsidiary of Palestinian fixed line incumbent Paltel, has not paid its taxes, with police having been deployed outside the firm's headquarters. Paltel executives have, however, rejected these accusations, stating that all relevant taxes have been paid to the Palestinian Authority in the West

Bank, where the company is both based and registered. Further, Paltel chief executive Ammar Aker was cited as saying that it was not possible to separate tax filings between the two territories, claiming that to do so would fuel division and 'may expose national economic institutions that work within an international system to questions and sanctions that may result in grave damage.' In the face of the enforced office closure, Paltel also revealed that it was closing its offices in Gaza in solidarity. Meanwhile, although the Jawwal offices have been closed, mobile subscribers in the Gaza Strip are understood to still be able to access their services, though it reportedly remains unclear for how long this may be the case. (July 1, 2015) phoneworld.com.pk

Qatar



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

Qatar-based multinational telecoms operator Ooredoo Group has reported consolidated revenue in the second quarter of 2015 of QAR8.005 billion (US\$2.196 billion), down 5% year-on-year from QAR8.401 billion. However, it achieved revenue growth in local currency terms in Qatar, Oman, Indonesia, Myanmar, Algeria, Kuwait and the Maldives, while excluding the negative impact of foreign exchange (FX) in Indonesia, Algeria, and Tunisia, the group's revenue would have increased by 3%. Consolidated EBITDA fell by 7% year-on-year to QAR3.251 billion in the three months to the end of June 2015, while net profit in the quarter was 39% lower than the same period of 2014, at QAR501 million. Excluding FX impact, group EBITDA would have been in line with the year-ago results and net profit would have decreased by 24%. The fall in profitability was primarily due to the ongoing security and other challenges faced in Iraq. Ooredoo Group's consolidated customer base jumped by 21%, or over 20 million, in a year to reach 114.2 million at 30 June 2015, driven by strong mobile user base growth in Indonesia, Myanmar and Algeria. Data now constitutes 34% of the group's revenue (up from 20% a year earlier); Qatar, Oman, Algeria and Tunisia were the main drivers for the data services growth. (July 30, 2015) telegeography.com

Vodafone Qatar, an affiliate of Vodafone Group, blamed stiff competition as it reported a widening first-quarter loss that missed analyst estimates. Vodafone, which has yet to make a quarterly net profit since it ended state-controlled Ooredoo's domestic monopoly in 2009, made a net loss of 99.9 million riyals (\$27.4 million) in the three months to June 30, it said in a statement. That compares with a loss of 27.4 million riyals in the prior-year period and the operator has now made widening losses for three successive quarters, Reuters data shows. Vodafone Qatar's financial year starts on April 1. Analysts had on average forecast Vodafone Qatar would make a quarterly loss of 56.8 million riyals. "The Qatari telecom market continues to face extremely competitive pressure on prices, which is impacting the company's results in the short term," Vodafone Qatar chairman Sheikh Dr. Khalid Bin Thani Al Thani said in the statement. The company, which is 23% owned by parent Vodafone and 22 percent by a Qatar government-linked fund, generated first-



quarter revenue of 538 million riyals. This was down from 8 percent from the prior-year period.

(July 30, 2015) arabianbusiness.com

Saudi Arabia



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

Telecoms regulator has extended the deadline for bids for a mobile virtual network operator (MVNO) license that will enable the holder to offer services using Zain's infrastructure. The Communications and Information Technology Commission (CITC) recently published a statement confirming that interested parties have until 10 December to submit their applications for an MVNO license. The regulator had previously set a mid-August deadline for receipt of applications, but chose to extend it "following a number of requests from stakeholders," it explained. MVNOs are still relatively new in Saudi Arabia. Virgin Mobile became the country's first virtual player in September last year when it launched services on Saudi Telecom Company's (STC's) network. Lebara was next to come to market in December; its service uses Mobily's network. The country also planned to issue a third license for an MVNO on Zain's network, short listing devices retailer Axiom Telecom. However, the process became mired in red tape and the license was never formally granted to Axiom, and in April 2014 the CITC re-opened the tender. Since then it has delayed the process a number of times. In its most recent statement on the subject the CITC did not mention Axiom nor any other possible applicant by name. (August 24, 2015) totaltele.com

With the advent of Saudi Arabia's knowledge economy, the Communications and Information Technology Commission (CITC) in KSA and Huawei have announced a knowledge sharing education alliance to nurture young talent and open up ICT technologies for more communities across the KSA. The collaboration supports Huawei's annual Seeds for the Future education program in KSA, which offers select students each year the opportunity to develop practical skills that will prepare them for a career in the ICT industry, learning from Huawei's experts at its global headquarters and Excellence Centers in China. Developing a local talent pool of educated and technologically-skilled individuals is a leading priority in Saudi Arabia as the rise of science-focused development offers fresh career opportunities within the regional ICT industry. The education alliance between Huawei and CITC will cover a range of trending topics including next-generation networks, network architecture and implementation, VoIP, security solutions and cloud computing amongst others. The 14-day internship at Huawei's campus, R&D centers and its Centers of Excellences in Shenzhen and Beijing, focuses on topics related to the development of next generation networks. The program also features a cultural exchange in which the students will experience and learn Chinese language and traditional culture. Tariq H. Alamir, General Manager of Technical Affairs from CITC said: "Saudi Arabia is home to a fast growing ICT industry that is bringing considerable benefits to society and local businesses and young talent is crucial for growth and development of this industry. We are working to help students in Saudi Arabia to develop the

necessary skills that will help them build a technology-focused knowledge driven economy. We are proud to partner with innovative and forward thinking companies like Huawei, that have built strong educational programs such as KSA Seeds for the Future, which help to enrich the country's greatest resource, its people". Huawei is a strong advocate of helping educators empower youth by equipping them with the right knowledge and tools to help them grow professionally. It believes that access to education is vital for creating opportunities that support sustainable and fair development. Ramadan Ding, CEO, Huawei Saudi Arabia, said: "We are great believers in the power of connectivity and how the right technology can help bolster education globally. Our partnership with CITC is testament to our commitment to help build a true knowledge economy in Saudi Arabia and supporting the development of the ICT industry in the Kingdom. The Seeds for the Future education program in KSA bridges the digital divide by nurturing young talent and opens up ICT technologies for more communities across the globe." Launched in 2008, 'Seeds for the Future' is one of Huawei's flagship global CSR programs with study trips having been implemented for students from over 37 countries worldwide. Huawei developed the CSR initiative due to its firm belief in delivering innovation that meets the specific needs of its customers.

(August 11, 2015) zawya.com/

Syniverse has announced an agreement to enable Saudi Telecom Company (STC) to launch LTE roaming via its IPX Network Solution. The Syniverse IPX provides a connection that currently serves more than 1,000 LTE roaming routes with reach to more than 230 operators in 44 countries. "Through a single connection to Syniverse's expansive IPX network, we are able to deliver LTE roaming while also future-proofing our network to support advanced technologies like VoLTE and to increase bandwidth as LTE volumes continue to rapidly grow." said Eng. Walid Al-Wabel, General Manager of STC's Wholesale Operations Management. In addition to leveraging Syniverse's data and financial clearing, IOT Discount Management and Near Real-Time Roaming Data Exchange, STC uses the Gain Management suite to facilitate international roaming agreement negotiations and to perform TADIG testing to help expand the operator's voice, data, CAMEL and LTE footprint.

(July 16, 2015) cellular-news.com

Saudi Arabia's Zain and Huawei, have announced the launch of the first commercial LTE Advanced Carrier Aggregation in two frequency bands (Band 1 and Band 3) network in the world. By launching an LTE-A network in partnership with Huawei, Zain can offer superfast mobile speeds of up to 150 Mb/s with high bandwidth and compatibility with its existing nationwide LTE network. Heralded as the first of its kind in the world, the LTE-A network was developed by implementing Carrier Aggregation in two frequency bands (Band 1 and Band 3). The new network not only doubles its capacity but enhances the user speed upper limit from 75Mbps to 150 Mbps in order to meet the growing levels of data usage from mobile subscribers in Saudi Arabia. In collaboration with its strategic partner Huawei, Zain also set up the 'Tech City' project in Saudi Arabia to establish protocols to understand the best user experience, aiming to achieve the best voice quality, web and video experience in the Saudi market.



"The launch of our new LTE-A network in Saudi Arabia is another step of our commitment to offer the best and most innovative solutions to our customers. As market trends continue to move toward high speed mobile data & video communication along with the proliferation of social applications, bringing unprecedented challenges to mobile broadband networks. We recognize LTE-A technology as the way of future connectivity," said Hassan Kabbani, CEO of Zain KSA. (July 2, 2015) cellular-news.com

Sri Lanka



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

The Sri Lankan government has signed a memorandum of understanding (MoU) with US search engine giant Google to deploy the latter's 'Project Loon' balloons in order to increase 3G coverage across the country. According to Deputy Economic Policy Minister Harsha de Silva, the deal, which was signed on July 28, will enable operators to enter into agreements with the floating tower cells, bringing down transmission costs and leading to reductions in the cost of service provision. 'Hopefully in a few months every person and every device on the island will be covered by 3G,' commented de Silva, adding that the move will 'provide a huge boost to our game plan to create a knowledge-based economy.' 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 specialised radio frequency technology'. Project Loon utilises unlicensed frequencies in the 2.4GHz and 5.8GHz bands.

(July 30, 2015) telegeography.com

Sudan



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

Zain Sudan, the country's largest mobile operator by subscribers, plans to invest around US\$200 million to expand and develop its wireless infrastructure in 2015 and 2016, Reuters cites the firm's chief executive Elfatih Erwa as saying. He added that Zain has completed the rollout of a Long Term Evolution (LTE) network in the capital Khartoum, but is still waiting for government permission to launch the technology on a commercial basis. Without providing further details, Erwa also said that Zain was still interested in purchasing a stake in Sudanese fixed line operator Canar Telecommunication Company (Canar), in which UAE-based Etisalat owns a 90% stake. Zain Sudan reported a total of 11.60 million mobile customers at the end of March 2015, giving it a market share of 42.0%, compared to South African-owned MTN Sudan with more than 8.59 million users (31.1%) and Sudatel with 7.40 million (26.8%).

(August 3, 2015) reuters.com

Turkey



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

Turkey's three incumbent mobile network operators (MNOs), British-owned Vodafone plus Turkish-owned Turkcell and Avea, have each won 4G spectrum in the 26 August tender held by the Information and Communication Technologies Authority (BTK), collectively bidding a total of more than EUR1.14 billion (USD1.3 billion) for the frequencies on offer. Meanwhile, a fourth firm, Netgsm, declined to submit an offer on the bandwidth that will enable mobile operators to roll out new technologies (including 5G), replete with faster web browsing and improved voice calls. The licenses won in the auction are valid until April 30, 2029 and will treble the amount of available spectrum for each operator when the systems eventually go live. In total, 20 packets of Frequency Division Duplexing (FDD) spectrum were up for tender, the BTK confirmed. The tender packages had been divided up into broadly equal blocks, dubbed A1, A2 and A3, and are the only three allocations being made in Turkey. Vodafone Turkey reportedly offered EUR390 million for the A1 800MHz bandwidth allocation, while Avea bid the most (EUR380 million) for the equivalent FDD A2 package. Meanwhile, Turkcell won the 800MHz A3 package with its bid of EUR372.9 million. The BTK had hoped to launch the 4G auction in May this year but the process was delayed, and only after several revisions were the new details published; the revised auction had suggested dubbing the award as one for '4.5G' frequencies after a review of 4G led to widespread criticism and a call from President Recep Tayyip Erdogan to 'skip directly from 3G to 5G ... within two years'. However, in the end the confusing moniker was ditched from the final auction.

(August 27, 2015) telegeography.com

Turkey's auction of 4G mobile phone frequencies lured a higher than expected 3.96 billion euros (\$4.5 billion) worth of bids, the agency running the process said on Wednesday, showing the appeal of Turkey's youthful and growing market. The bids from Britain's Vodafone, and Turkish duo Avea and Turkcell, the only three operators in Turkey, will be subject to an approval process before a final decision on allocations is made. Turkey's mobile phone industry is a growth sector servicing a young and data-hungry population, noted Jonathan Friedman at global risk consultancy Stroz Friedberg. "Beyond recent political instability, Turkey is a large market with nearly 80 million consumers, and investors want to be a part of that," Friedman said. The tender had been postponed in May, weeks after President Tayyip Erdogan urged Turkey not to waste time with 4G and move straight to 5G, for which technical standards do not yet exist. 4G and 5G refer to the latest technology standards for mobile devices. Fourth-generation technology, which went mainstream worldwide around 2010, enables users to watch videos and download big documents on their phones. In an apparent bid to placate Erdogan, Turkish officials had dubbed the technology being auctioned as 4.5G, but subsequently dropped the term. Wednesday's tender was a sale of mobile spectrum used all over Europe for 4G, which allows for up to 10 times faster mobile broadband than 3G technology. Generally, lower



bandwidths offer faster data speeds but over a shorter distance and are useful for densely populated areas; larger bandwidths offer greater coverage but less speed for rural areas. The fifth-generation technology Erdogan craves remains years away from formal definition and is not expected to be ready for widespread commercial rollouts until 2020. Turkey had divided the bandwidths to be used for its 4G network into packages, to be shared broadly equally between the operators. For the 800MHz bandwidth for instance Vodafone offered the highest bid of 390 million euros for the package dubbed A1, Avea the highest with 380 million euros for the A2 package, and Turkcell's offer of 372.93 million euros was the largest for the A3 package, commission chairman Deniz Yanik said on Wednesday. The three operators also each posted the highest bids in subsequent tenders for higher bandwidths, Yanik said, with the total value of the auction 1.5 times higher than predicted.

(August 26, 2015) reuters.com

Turkey has revised its specifications for the country's planned 4G tender, with the acting President of the Bilgi Teknolojileri ve İletişim Kurumu (BTK), Omer Fatih Sayan, clarifying that the tender has not been cancelled, and will still take place on August 26, 2015, as planned. Going forward, the '4.5G' frequencies are likely to be put into use from April 1, 2016. Operators will be obliged to achieve 95% population coverage within eight years of winning the concessions, the BTK has asserted. Originally scheduled to take place on May 26, 2015, the long-awaited 4G auction was postponed until August 26, in order to allow would-be bidders additional time to complete their financial and technical preparations. The decision followed a surprise statement from Turkey's President in which he stated: 'It is not necessary to waste time with 4G,' before advising that the country's mobile sector should move to 5G technology 'within the next two years.' (August 3, 2015) telegeography.com

Turkcell and Ericsson have signed a Memorandum of Understanding (MoU) to collaborate on 5G research and development. The MoU was signed by Turkcell CEO Kaan Terzioğlu and Ericsson CEO Hans Vestberg at Ericsson Studio in Stockholm. The main objective of this MoU is to develop a joint understanding of 5G use cases, requirements and deployment scenarios, as well as evaluate performance and applicability of potential 5G key technology components and business collaboration as to 5G potential research projects. Hans Vestberg, President and CEO of Ericsson says; "We are expecting 5G adoption to begin in the near future, hence we are focusing on the ways in which the industry will adopt the 5G standard globally to deliver capabilities and services beyond the mainstream 4G offerings. With operator cooperation's like this, we bring research into the live test networks which give us valuable insights." 5G will evolve the entire future communication ecosystem, from devices to mobile access, IP core and into the cloud. Ericsson's latest 5G test network initiatives focus on the interactions between mobile devices and the radio access network, in both indoor and outdoor circumstances. (July 20, 2015) cellular-news.com

Tunisia



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

Tunisia is set to implement long-delayed fixed and mobile number portability (FNP and MNP, respectively) services from early 2016, following a series of decisions issued by sector regulator the National Telecommunications Commission (INT) earlier this week. The decisions amended the most contentious issues and set new deadlines for the process of launching FNP and MNP. Following the decisions, the nation's trio of mobile operators, Ooredoo Tunisia, Tunisie Telecom and Orange Tunisia, along with the INT and portability administrator Meninx, signed a new agreement at the INT headquarters, overseen by the Minister of Communication Technologies and the Digital Economy. The INT had set out procedures and guidelines for number portability (NP) in July 2012, with a deadline of July 2013 for the service's introduction. Delays in selecting a service provider and complaints from wireless operators forced the watchdog to postpone the process, however. (August 5, 2015) telegeography.com

United Arab Emirates



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

Residents who do not update their SIM card registration details with telecom companies could face disconnection in phone services. Registering one's SIM card with telecom providers etisalat and du is in line with the 'My Number, My Identity' program launched by the Telecommunications Regulatory Authority (RTA) in 2012. The program requires all subscribers to register their SIM cards using a valid Emirates ID and visa for each connection. This is done to protect their rights and confidentiality and to avoid fraud cases. But since documents used to register the SIM cards in the last two years would have expired by now or are about to expire, the TRA has required residents to re-register their SIM cards by updating their information using the renewed documents. "The validity of the SIM card is dependent on the validity of the particular document that the SIM card was registered with. This includes a passport, visa or Emirates ID," a spokesperson from du said. Etisalat said in a statement that keeping updated registration records for all its mobile customers is part of the UAE's regulatory framework. "In light of that, in case a customer's registration documents or details, such as ID or passport, that he has used in purchasing a mobile telecom service becomes expired while he is consuming the mobile telecom service, these expired documents or details needs to be updated," etisalat added. "As such, etisalat sends SMSs to remind customers who have their registration documents approaching expiry or expired to share their updated new documents or details with Etisalat to continue enjoying their mobile service," etisalat added. In the case of du customers, they will be notified of the expiry on three separate occasions via a text message to ensure convenience. The first SMS is sent out 30 days prior to the expiry of the document, second SMS is sent on the date that the document expires, and



the third SMS is sent to the customer 15 days before their du account is suspended. Mobile phone users can visit any etisalat or du service centre and bring their customers should bring their original Emirates ID and passport with a valid visa to update their information.

(July 30, 2015) [zawya.com](#)

Nokia Networks and UAE based Du have used drones carrying smartphones with network testing applications to analyze Du's network. The test was carried out at the Dubai International Stadium, Dubai Sports City, which has a seating capacity of 25,000 people. Drones were also used for tower inspections, radio planning and Line of Sight (LoS) testing between radio towers. Automated testing and analysis is more efficient than traditional manual walk tests, as drones can cover the desired area quicker. Additionally, the test data is collected automatically and sent to a server so that it can be instantly processed at Nokia Networks' Global Delivery Center (GDC) for immediate reporting and any necessary actions to improve network performance. Telco drones were also used for tower inspections to reduce the number of times technicians need to climb up and down a telecom tower. It is especially important when weather conditions make climbing too dangerous. This method delivers a high-quality site audit with unique and detailed panoramic and top-down views of the lattice tower captured in one pass. Drones can also help supervise the quality of installation by remotely monitoring the installation via wireless video streaming. The drones were also used for radio planning and Line of Sight (LoS) testing. The engineers knew if a frequency used was impacted by trees, if there was sufficient power to cover the distance, what the simulated latency would look like and what performance over such a connection could be expected. This helped achieve optimal site design, establish a clear LoS, as well as suitable antenna height and site location. Tony Awad, Head of Du Customer Team, Nokia Networks, said: "Drones are becoming a common phenomenon across the world and multiple sectors are embracing the benefits drones bring such as faster deliveries in logistics or delivering emergency services in health care. In the telecoms sector, certain operators have already embraced the use of drones for telecom tower audits, and we are proud to be able to demonstrate multiple use cases using drones with Du in the UAE. With the use of drones we continue to bring innovation and automation into our service delivery to make our networks even more efficient and reliable." (July 17, 2015) [cellular-news.com](#)

Fitch Ratings has affirmed UAE based state owned Etisalat's Long term foreign currency Issuer Default Rating (IDR) at 'A' with a Stable Outlook. Its senior unsecured debt is also affirmed at 'A'. Etisalat's IDR is underpinned by its strong linkage with the UAE government from which its rating is notched down on a top-down basis. This is driven by assessment of strong legal, operational and strategy ties between the two, in accordance with Fitch's Parent and Subsidiary Linkage criteria. Etisalat's ratings are also supported by the strong cash flow generation profile of the company's domestic business. It has a leading position in the UAE, a two-player market where it has a revenue market share of around 70% and generates an EBITDA margin of around 55%. The small

notching differential between the UAE sovereign and Etisalat ratings reflects our view of a limited risk of the links between the two weakening in the future. In Fitch's opinion government support is integral to the company's international expansion plans. The UAE government currently owns 60.03% of Etisalat and, according to federal law, the government's stake cannot fall below 60%. Etisalat has a strong position in its domestic market where it generates the majority of the group's EBITDA (61% in LTM 1Q15) and cashflow (80% of EBITDA less capex). Domestic revenue growth in 2014 of 9% was driven mainly by the fixed line business. There was a strong take-up of eLife double and triple-play bundles and fibre-to-the home connections in the consumer segment, as well as data services in the enterprise segment. The regulatory environment is changing which might see Etisalat facing more competition in fixed services in 2H15. Du, the company's main competitor, is preparing to launch services using bitstream access via Etisalat's network on a wholesale basis. Mobile services, where Etisalat has around a 55% subscriber market share, are more competitive. Both Etisalat and du were assigned 800MHz spectrum earlier this year, which should allow both companies to continue to benefit from strong growth in mobile data. Growth of revenue from Etisalat's international businesses in 2014 was limited, partly due to negative FX trends. Etisalat controls 53% of the Maroc Telecom Group (MT, acquired in May 2014), which is fully consolidated in Etisalat's group results. The sale of some of Etisalat's existing African operations to MT created a group of operations in west Africa which should deliver scale benefits over the medium-term. The enlarged MT group accounts for around 21% of Etisalat's revenue (LTM 1Q15) and generates reasonable cashflow. The company's operation in Pakistan (9% of group revenue in LTM 1Q15), through a 23% economic interest in Pakistan Telecommunication Company Limited, is facing strong competition. In Egypt (9% of group revenue in LTM 1Q15), Etisalat's 66%-owned Etisalat Misr S.A.E. has helped improve profitability with a 5% revenue growth in local currency in 2014, although the regulatory environment remains uncertain. Net debt-to-EBITDA increased to 0.2x at end-2014 from -0.5x (net cash) at end-2013 after the completion of the debt-funded acquisition of MT. Fitch does not expect Etisalat's net debt-to-EBITDA to exceed 1.5x over the medium-to-long-term. This is commensurate with management's conservative financial policy and remains well within Fitch's guidelines for the current ratings. The domestic operation remains strongly cash-generative but Etisalat's free cash flow (FCF) margin has been diluted by the acquisition of MT. We expect group FCF generation to improve over the medium-term as current investment programs are completed. (July 16, 2015) [cellular-news.com](#)



⊖ REGULATORY ACTIVITIES BEYOND THE SAMENA REGION

REGULATORY UPDATES

Albania



The governing council of the Authority of Electronic and Postal Communications (AKEP) of Albania has released a timeline for the introduction of 4G Long Term Evolution (LTE) services in the country. Under the outline plan, as of July 8 incumbent operators Albtelecom (Eagle Mobile), Albanian Mobile Communications (AMC), Vodafone Albania and Plus Communications have all been granted permission to carry out tests using the 900MHz and 1800MHz frequency bands, and must report back to the regulator with their findings by August 15. Data regarding modulation, encoding, signals and interfaces must be submitted to AKEP for evaluation; if the technical standards achieved during the tests are deemed satisfactory, the cellcos will be free to stage their respective commercial 4G launches from September 1. 1800MHz licenses were awarded to Albtelecom, AMC and Vodafone on March 20, 2015, while May 11 saw all four cellcos issued with 2x5MHz blocks in the 900MHz band. Meanwhile, Vodafone and AMC also secured 2600MHz spectrum on May 11, while the distribution of paired spectrum in the 1900MHz/2100MHz band was subsequently authorized on June 22, with Albtelecom and AMC scooping the frequencies. (July 10, 2015) telegeography.com

Armenia



Telecoms regulator, the Public Services Regulatory Commission (PSRC) approved, without conditions, the proposed takeover of domestic mobile operator Orange Armenia by local internet service provider (ISP) UCOM. On July 22 French behemoth Orange Group entered into talks to sell 100% of its Armenian mobile unit to UCOM, confirming that the decision to offload the unit formed part of its Essentials2020 plan, which will see it divesting non-viable businesses and focusing instead on providing its core user base with high-quality mobile and converged (fixed) services. According to audited financial statements, in FY2014 Orange Armenia sustained losses totaling AMD4 billion (US\$8.4 million), on top of losses of AMD3.85 billion in FY2013. Following the talks, Orange Group announced earlier this month the signing of an agreement with UCOM to sell the underperforming unit. No financial details of the deal have been disclosed, although it is known that Orange has spent upwards of USD350 million in the venture – including its mobile license. Gevorg Gevorgyan, chief of the PSRC's division in charge of communications, said that the decision to approve the takeover is 'beneficial to the company's employees and clients'. UCOM



was established in 2009 and has built up a fiber-to-the-home (FTTH) network with more than 75,000 residential customers. The union with Orange Armenia will create a new converged player which is able to offer a range of fixed and mobile services. The cellco launched on 5 November 2009 and today provides a range of 3G/3.5G voice and data services over a network which covers more than 97% of the Armenian population. It had 639,000 customers at the end of June 2015 and employs approximately 500 people. Upon completion of the deal, Orange Armenia will continue providing mobile telecommunication services, preserving its license and infrastructure. (August 21, 2015) telegeography.com

Australia



The Australian Competition and Consumer Commission (ACCC) published its final decision on mobile termination rates (MTRs) for the period January 1, 2016 to June 30, 2019. As per its ruling the regulator has said that the wholesale price of terminating calls on an Australian mobile network should be AUD0.017 (US\$0.012) per minute, less than half the current rate of AUD0.036 per minute. Meanwhile, operators will now be required to charge AUD0.030 per SMS to receive such messages, with this price said to have been based on the network capacity and equipment used to carry SMS, while it was noted it was 'well below current commercial rates for SMS termination'. However, with voice-over-LTE (VoLTE) technology expected to reduce the cost of terminating both mobile calls and SMS messages, the ACCC has said it will monitor the planned rollout of such services and may review the regulated rates if there is evidence that it is affecting costs. Commenting on the rulings, ACCC Commissioner Cristina Cifuentes was cited as saying: 'The ACCC does not regulate retail charges, either for mobile calls or SMS, but expects these savings ... will be passed onto consumers either by way of lower charges or through improved call and SMS inclusions in retail plans. The final regulated rates reflect the costs of terminating calls and SMS messages on Australian networks and is based on benchmarking the costs of these services against those in other countries.' Meanwhile, in separate but related news, Australia's communications minister Paul Fletcher has announced the government has agreed to implement the recommendations of the Department of Communications' Spectrum Review, which was published in May 2015. The state is now planning to: replace current legislative arrangements with new legislation that removes prescriptive process and streamlines licensing; ensure better integration of the management of public sector and broadcasting spectrum; and review spectrum pricing. The government has published a timeline for what it calls the key implementation milestones, with expectation that the new framework will commence from mid-2017.

(August 25, 2015) telegeography.com

The Australian Communications and Media Authority has signed a multiyear contract with Power Auctions for the provision of software capability for conducting spectrum auctions. The first use of Power Auctions' software is expected to be for the upcoming auction of regional 1800 MHz spectrum, scheduled to commence in late November this year. This auction should facilitate the expansion of 4G mobile broadband services in regional Australia, leading to better mobile services and more choice for regional Australians. Power Auctions, headquartered in Washington DC, USA, specializes in providing software and consulting services for online high stakes auctions. Power Auctions provided the

combinatorial clock auction (CCA) capability to the ACMA for the \$2 billion digital dividend auction in April 2013. 'I am really pleased that the ACMA and Power Auctions will continue our great working relationship,' said the ACMA Chairman, Chris Chapman. 'The newly acquired spectrum auction software will better enable the ACMA to conduct auctions of highly valued radiofrequency spectrum, which will ultimately benefit Australian industry and consumers to access new technologies and services.' Spectrum is a finite natural resource and in many bands demand from industry may exceed supply. When this happens, the ACMA typically allocates spectrum by auction. This provides a transparent process to establish a market price; ensuring licenses are allocated to those who value them most highly. The contract with Power Auctions provides the ACMA with ongoing capacity to conduct online spectrum auctions at short notice, using either the English open outcry or simultaneous multi-round ascending (SMRA) auction methodology. There is also an option to procure other flexible and innovative auction designs if required by the ACMA.

(August 4, 2015) cellular-news.com

Austria



In a statement the Rundfunk & Telekom Regulierungs (RTR or Regulatory Authority for Telecoms and Broadcasting) in Austria has confirmed its decision to allow 2100MHz 3G UMTS frequencies to be refarmed for 4G LTE use, with immediate effect. Johannes Gungl, managing director of the RTR, commented: 'A rapid reallocation of UMTS frequency use rights is necessary from a competitive point of view, so that broadband competition is strengthened with LTE. The positive economic effects [include] more capacity for broadband services, more spectrum for the supply of broadband in rural areas, and long-term cost savings through greater technical efficiency'. (August 13 2015) telegeography.com

The Austrian government expects to free up spectrum in the 700MHz band (694MHz to 790MHz) for mobile telephony use by 2020, the Federal Ministry of Transport, Innovation and Technology (BMVIT) has revealed. A statement signed by infrastructure minister Alois Stoeger asserts that the move will 'strengthen broadband penetration in Austria', adding that by reaching an early decision regarding the band's usage, the government will be able to help the country's cellcos and broadcasters plan ahead. Widely referred to in Europe as the 'second digital dividend' – after 800MHz spectrum – the 700MHz band was auctioned in neighboring Germany in May this year, while the French authorities inaugurated their own 700MHz spectrum sale last week. For its part, UK telecoms regulator Ofcom does not expect to auction off the frequencies until 2022. (August 11, 2015) telegeography.com

Belgium



The Belgian cellular operators Mobistar, Proximus and BASE have been successful in their legal attempt to overturn a tax on mobile network towers imposed by the Wallonia region in the south of the country. Belgium's Constitutional Court said the regional government had no authority to impose such a tax, De Tijd reports. Wallonia had been taxing operators up to EUR8,000 (USD8,660) per site since implementing the levy in 2013.

(July 20, 2015) telegeography.com



British Virgin Island



The British Virgin Islands (BVI) Telecommunications Regulatory Commission (TRC) has issued a provisional timetable for the introduction of 4G

Long Term Evolution (LTE) spectrum, which could be made available as soon as October. A new consultation document published on 30 June confirms that the regulator is evaluating the introduction vacant spectrum in the 450MHz, 700MHz, 1800MHz, 1900MHz, 2100MHz and 2500MHz bands. The TRC notes however, that the strongest interest to date is for rights to offer 4G in the 700MHz band, which has been used for LTE in the United States and a wide number of Caribbean nations. TRC officials are asking that stakeholders review the report and give their responses by 28 July, paving the way for the publication of draft frequency authorizations by the middle of August 2015. Spectrum applications would be due in mid-September, with licenses granted the following month. TRC chief executive Guy Malone said: 'The release of this consultation represents the significant progress that is being made in moving forward the delivery of competitive 4G LTE services across the Virgin Islands during the first half of 2016.' The territory's three mobile service providers – LIME, Digicel and CCT Wireless – have all confirmed their interest in deploying the LTE standard as soon as frequencies become available. Locally-owned CCT tested 4G technology in May 2014, but the trial proved problematic, and later that month the TRC leveled a fine of US\$50,000 at the cellco for its unauthorized use of 700MHz spectrum. (

July 2, 2015) telegeography.com

Bulgaria



Bulgaria's Commission for Protection of Competition (CPC) said that it has fined telecom carrier MobilTel 362 000 leva (about 185 000 euro) for device giveaways,

which the regulator said was an unfair trade practice. CPC said that the fine was the result of a complaint filed by several small cable operators, who claimed that the carrier offered devices such as phones, laptops and TV sets for free as part of a promotional campaign to its subscribers. The regulator said that its investigation found that MobilTel – a subsidiary of Telekom Austria, which operates under the M-Tel brand and is Bulgaria's largest carrier by customer base – did engage in the practices described by the plaintiffs in October and November 2012, breaching competition legislation. The regulator had fined MobilTel earlier in this case, but its decision was overruled by the administrative courts, which ruled that CPC should review its decision because it had committed procedural breaches. As a result, the regulator opened a new case in 2014 and, having reviewed the evidence, ruled that MobilTel was in breach of competition law, imposing the fine, which was equal to 0.05 per cent of MobilTel's turnover in 2014. The fine can be appealed within a period of 14 days at the Supreme Administrative Court, the regulator said.

(July 3, 2015) sofiaglobe.com/

Canada



MTS-Allstream and SaskTel have acquired spectrum assets from rival player Wind Mobile, which said it would use the proceeds from the sales to expand its network elsewhere, including building out its LTE infrastructure. Both telcos announced the purchase of AWS-1 spectrum in their respective operating provinces.

SaskTel said it had received the green light from Industry Canada to transfer ownership of two blocks of AWS-1 spectrum from Wind Mobile in Saskatchewan. "Our 4G LTE network in the nine major urban centres in Saskatchewan operates on the AWS-1 spectrum band and with these additional blocks we can deliver significantly more bandwidth and faster speeds," said SaskTel CEO Ron Styles, in a statement. Wind also said the deal would boost its 4G business. "We will channel the proceeds toward network expansion and quality improvements including LTE service," said Alek Krstajic, who became the operator's new chief executive earlier this year. He made a similar comment after Manitoba-based MTS announced that it had acquired 15 MHz of Wind's paired AWS-1 spectrum. "We will be able to focus our resources on providing strong competition in Ontario, British Columbia and Alberta," Krstajic said. "These sale proceeds, including our recent spectrum acquisitions from Rogers as well as the AWS-3 spectrum auction, will be used towards network expansion and quality improvements including the LTE rollout," he added. Rogers Communications, Canada's biggest mobile operator by subscribers, agreed to carry out a spectrum swap with Wind and to sell it some AWS-1 assets as part of its June deal to acquire Mobilicity. Meanwhile, Wind paid C\$56.4 million for frequencies in three service areas in the AWS-3 auction that concluded in March. MTS said it will pay Wind C\$45 million for the spectrum. It will finance the deal using existing credit facilities that it will pay back following the sale of its Allstream business services provider unit. The telco on Thursday revealed that, following a restructuring process that is almost complete, it will move to exit Allstream. It plans to engage with prospective buyers in the second half of this year. (August 3, 2015) totalele.com

Chile



The long-delayed official attribution of Chile's 700MHz LTE licenses has finally taken effect, 17 months after the spectrum auction ended, Telesemana reported. The

award of the frequencies to Entel, Movistar and Claro was confirmed by the country's Comptroller general, making it legal, the paper quoted communications minister Andres Gomez-Lobo as saying. The award process was delayed by a string of legal challenges over the outcome of the March 2014 auction. Chilean consumer group Conadecus said on Monday it filed an appeal in the Supreme Court against the refusal of the competition court (TDLC - Tribunal de Defensa de la Libre Competencia) to examine its complaint accusing the winning mobile operators of spectrum hoarding. Under the terms of the license award, the three operators have 18 months to cover 1,281 localities, 854 km of highways and 503 educational establishments, all of which must enjoy the same tariffs as clients in Chile's regional capitals. (August 12, 2015) lte-tdd.org

Chilean anti-trust tribunal, the Court of Defense of Free Competition (TDLC, Tribunal de Defensa de la Libre Competencia) has rejected a case brought by consumer lobby group the National Corporation of Consumers and Users (Conadecus, Corporacion Nacional de Consumidores y Usuarios) against cellcos Entel, Movistar and Claro for alleged spectrum hoarding. Conadecus sought to challenge the allocation of 700MHz band frequencies to the trio, on the basis that the additional frequencies would give the operators more than a maximum of 60MHz set by the Supreme Court in 2009. According to the group, the nation's mobile



providers sought to hoard spectrum and thereby restrict competition in order to keep prices artificially high. In its ruling, the TDLC said that the lobby group had no legal standing to take action in the matter, having failed to explain how the individual or collective interests of consumers could be affected immediately and directly by the cellcos' behavior. Further, the court accused Conadecus of 'pretending to exercise functions that the law has expressly given to the National Economic Prosecutor (FNE, Fiscalía Nacional Económica).' Under the terms of the decision, Conadecus was instructed to cover legal costs. (July 30, 2015) [telegeography.com](#)

China



4G subscriptions in China reached 225.467 million at the end of June 2015 according to the latest statistics from the Ministry of Industry and Information Technology (MIIT), with China Mobile accounting for 189.662 million of that figure – neither China Unicom nor China Telecom provide subscriber figures for 4G use. The world's largest cellco by subscribers, China Mobile has reported a recent slowdown in its overall user growth, adding just 1.812 million customers in the second quarter of 2015 to 817.196 million, compared to 8.750 million in the first three months of the year. Indeed, the operator's 3G user base has declined sharply over the last six months, falling from 245.753 million at end-2014 to 214.815 million as the 4G segment has gathered speed with its 4G customer base more than doubling from 90.064 million to 189.662 million. Similarly, China Unicom reported that its overall user base fell to 289.307 million at end-June from 294.751 million three months earlier, whilst its combined 3G and 4G user base climbed to 151.788 million from 151.364 million. Telecom's customer base, meanwhile, grew to 191.440 million as at end-June 2015 from 188.820 million in the previous quarter, with its 3G/4G users making up 131.000 million of that number, compared to 124.850 million. (July 23, 2015) [telegeography.com](#)

Costa Rica



State-owned utilities provider Grupo Instituto Costarricense de Electricidad (Grupo ICE), which offers telecom services under the Kolbi brand, has refused to participate in Costa Rica's internet exchange point (IXP). The Costa Rica IXP (CRIX) allows operators to exchange domestic traffic locally, minimizing the need for international traffic, thereby reducing costs and latency, resulting in faster and more efficient connections for end-users. At present 18 providers use the platform but Kolbi, which represents roughly half of the nation's fixed broadband subscribers, has refused to participate, saying that it has its own international capabilities and would gain 'no benefit' in economic or traffic terms. Further, the incumbent complained that participation would enable rival operators to benefit from its own investment in network infrastructure, with Kolbi's director of innovation and strategy, Francia Picado quoted as saying: 'Low or no existing network investment by others present in the IXP, in contrast to the investment made by ICE...is remarkable.' Rosalia Morales, the director of NIC Costa Rica, which manages the exchange, disputed Picado's claims noting that the cost of maintaining a submarine cable would always be greater than maintaining a connection to the IXP.

(August 11, 2015) [La Nación](#)

Denmark



Scandinavian telecoms giants TeliaSonera and Telenor have submitted proposed concessions on their planned Danish merger to the European Commission (EC).

Late last week the pair made undisclosed commitments to the EC, which triggered a 15-working-day extension of the deadline to decide the case, from 16 September to 7 October. Telenor and TeliaSonera (which operates as Telia in Denmark) unveiled plans to merge their Danish operations into a 50/50 joint venture in December last year. The EC opened an investigation into the deal in April, expressing concerns that it could reduce competition in the local mobile market and lead to higher prices for consumers. The Commission warned that the market's smallest player, Hutchison-backed 3, and incumbent operator TDC could struggle to compete with the merged entity. As such, the EC laid out its objections to the deal in June. Although the details of the proposed concessions remain unclear, the telcos are said to be upbeat that the merger will be approved by year-end. (August 18, 2015) [Reuters..Com](#)

El Salvador



Telecoms regulator, the Superintendencia General de Electricidad y Telecom (SIGET), has officially announced the introduction of number portability (NP), enabling the country's fixed and mobile customers to retain their number if they switch service provider. The watchdog says the launch of NP gives consumers the opportunity to freely exercise their right to choose their telecoms operator, and will promote healthy competition in the sector, which could lead to lower service costs and increased investment. The legislation calling for the introduction of NP came into force in 2010, but SIGET subsequently postponed the service's implementation, stating that telecoms operators were not prepared for the change, while a lack of consensus over who would fund the process also led to further delays. Eventually, legislation stating that the cost of the process would be absorbed by the recipient operator was approved in October 2014, and in January 2015 SIGET announced that it had awarded the NP administrator contract to Mediafon, in association with local company imCard. (August 27, 2015) [telegeography.com](#)

European Union



The European Commission cleared an energy retail joint venture in Hungary between telecoms operator Magyar Telekom and Swiss based sales and trading group MET Holding. "The joint venture will face strong competition from companies currently active in the Hungarian energy markets as well as from new players," said the Commission, which acts as the 28-member bloc's competition watchdog. The joint venture is based on a strategic agreement signed in July 2013 between Magyar Telekom and Hungarian energy group MOL. (August 21, 2015) [economictimes.indiatimes.com](#)

The European Commission (EC) has issued a recommendation to the Finnish Communications Regulatory Authority (FICORA) in which it has concluded that the latter's mobile termination rates (MTRs) proposal does not follow the European Union's (EU's) recommended approach for calculation of MTR costs. In a press release confirming the development, the EC noted that a three month investigation of the FICORA's



MTR proposals had led it to conclude that, if adopted, the rates in Finland would be approximately 25% above the average set by regulators in the other EU member states. In March 2015 announced it would examine the FICORA's proposal to allow Finnish mobile network operators to recover MTR costs other than those strictly related to the incremental costs of provision of wholesale termination services. At the time, the FICORA argued that its regulatory proposition promoted competition, while noting that the Information Society Code, which is in force in Finland, did not enable the use of the cost calculation model recommended by the EC. As per its proposition, the Finnish regulator had suggested that MTRs should not exceed EUR0.0125 (USD0.0135) per minute, effectively meaning a 33% reduction from the current level. Having made its decision, the EC has now called on the FICORA to withdraw its proposal or amend it in order to bring it in line with EU telecom rules, with the Finnish body having been given one month to communicate the adopted measure to the Commission. Should it decide not to amend or withdraw its proposal on the basis of the recommendation, the EC has requested that it provide it with 'a reasoned justification, explaining why FICORA's approach is more appropriate in view of specific Finnish circumstances, than the recommended model'. (July 28, 2015) telegeography.com

Finland



The Communications Regulatory Authority (FICORA) has announced a number of decisions regarding companies adjudged to hold significant market power (SMP) in the mobile voice call termination market. The watchdog has published separate SMP decisions related to a total of four mobile network operators, those being Elisa Corporation, TeliaSonera Finland, DNA Finland and Alands Mobiltelefon. Coupled with these decisions, the FICORA has also confirmed it is tightening the regulation of mobile termination rates (MTRs) for all of the aforementioned operators. With the regulator revealing that for the first time it has set a cost-oriented maximum levy for MTRs, Asta Sihvonen-Punkka, the FICORA's Director General, was cited as saying: 'The set maximum price means that MTRs between operators will drop at the beginning of December by a third, from the current price EUR0.0187 (US\$0.021) to EUR0.0125 per minute.' However, with the European Commission (EC) having reportedly sought even more strict regulation than has been enacted by the Finnish authorities, the regulator's director general added: 'Although the prices do not drop to the level required by the Commission, we consider the reduction of the prices to be significant and the future price reasonable.' (August 11, 2015) telegeography.com

France



French telecoms regulator ARCEP has adopted two decisions, authorizing SFR and Orange France to reform the 1800MHz band for Long Term Evolution (LTE) use from May 25, 2016. According to Decision no. 2015-0975, Orange France will hold 2x20MHz in the aforementioned band (1710MHz-1730MHz/1805MHz-1825MHz) from March 15, 2016, down from its current holding of 2x23.8MHz. Meanwhile, Decision no. 2015-0976 states that from May 25, 2016 SFR will have 2x20MHz in the band (1730MHz-1750MHz/1825MHz-1845MHz), down from 2x21MHz in July 2015). the four mobile operators – Orange France (then FT-Orange), SFR, Free and Bouygues Telecom – paid a total of EUR3.57 billion (US\$4.71 billion) for the allocation of 800MHz/2600MHz

spectrum for 4G LTE services at end-2011. While rival operators SFR and Orange France opposed Bouygues's request to use the 1800MHz spectrum for LTE, it was tentatively approved by ARCEP in March 2013, provided the company relinquish some of its spectrum according to a specific timetable. Bouygues was allowed to start offering 1800MHz LTE from 1 October 2013, while the 5MHz of spectrum it returned was awarded to Free Mobile in December 2014. (August 7, 2015) telegeography.com

French telecoms regulator ARCEP has withdrawn frequencies allocated to three non-operational companies based in the French overseas departments, following their respective failures to comply with previously stated rollout obligations. Guadeloupe Telephone Mobile, Martinique Telephone Mobile and Guyane Telephone Mobile were each issued with spectrum in the 900MHz, 1800MHz and 2100MHz bands in 2008, which was to be used for the deployment of 2G and 3G networks in their respective markets. With the would-be operators having failed to meet the coverage obligations attached to the concessions (90% coverage by 2013, subsequently extended to full coverage by 15 January 2016, with interim deadlines of 15 January 2015 and 15 April 2015), on 19 May 2015 Arcep decided to proceed with sanctions. According to a press release from the regulator, the three companies appealed to France's highest administrative court, the Conseil d'Etat, to lobby for the sanctions to be halted. However, in an order dated 8 July 2015 the Conseil d'Etat relief judge rejected all three appeals. All three companies are owned by Curacao-based United Telecommunication Services (UTS), which has a presence in a number of Caribbean markets. (July 20, 2015) telegeography.com

The French telecommunications office ARCEP has issued an invitation tender for the 700 MHz band being vacated by the country's DTT broadcasters. It's envisaged the capacity will go to telecom operators for mobile broadband services. A multi round auction will see the sale of six x 5 MHz blocks. The government has set a reserve price of €416 million in each block; it has also attached a series of coverage obligations that ARCEP says are as strong as those attached to the 800 MHz band already in use by the mobile sector. In addition, a single candidate cannot acquire more than 2 x 15 MHz in the 700 MHz band or more than 2 x 30 MHz of low-frequency spectrum. Companies that are expected to include Orange, SFR, Bouygues Télécom and Free, have until September 29, 2015 to lodge their bids. The 700MHz band will be cleared on a gradual basis between 2016 and 2019. (July 10, 2015) broadbandtvnews.com

Germany



Following a three-month investigation, the European Commission (EC) has recommended that the German telecoms regulator, the Federal Network Agency (FNA), amend its fixed termination rates (FTRs) in line with the EU recommended approach for the calculation of rates. The FNA proposes to set FTRs for 53 operators at the same rate as it applies for Deutsche Telekom (DT), a rate which has previously been criticised by the EC as being contrary to the EU regulatory framework. If adopted, the new rates of EUR0.0024 (USD0.0026) per minute would be in place retrospectively from 1 December 2014 and until the end of 2016, and would be over 200% higher than the rates in the vast majority of the member states which follow the recommended approach. The EC states that this would mean that German consumers and businesses would pay much



more for their fixed telephony services than those just across the border. The FNA has been given one month to withdraw its proposal or to amend it in order to bring it in line with the EU telecom rules. (July 22, 2015) [telegeography.com](#)

Ghana



Mobile Money has become an extremely popular service within Africa; however, the service has taken a heavy blow recently. In Uganda, the service was deemed illegal.

While not deemed illegal in Ghana, as of yet, Ghana's central bank (BoG) has now introduced a new set of guidelines for telecommunication companies engaged in mobile money services. According to a report by [ghanaweb.com](#), telecommunication companies will have up to six months to establish a separate business entity to handle their mobile money services. Under the guidelines, which became effective on July 6, 2015, non-banks that have previously been offering mobile financial services in partnership with banks must apply for a license, in order to conform to the new framework. According to the report, the objective of the latest guidelines is to ensure that electronic money is only provided by a financial institutions regulated under the Banking Act, or duly licensed non-bank entities which are engaged solely in the business of e-money and activities related or incidental to the business of e-money, and which are regulated and supervised by the Bank of Ghana". The report reveals that three of the six mobile operators in Ghana – MTN, Airtel and Tigo – are involved in the mobile money business, which has grown from a transaction value of GHS 2.4 billion in 2013 to GHS 11.6 billion last year. The new regulation will mean that MTN, Tigo, and Airtel have a 06 January 2016 deadline to conform to the BoG's requirements.

(July 9, 2015) [itnewsafrika.com](#)

GSMA



The GSMA has launched a new project that it hopes will ensure that cellular technology is the de facto standard that underpins the Internet of Things (IoT).

Called the Mobile IoT Initiative, it will address the use of low power wide area (LPWA) solutions in licensed spectrum. It will explore three possible options for cellular IoT technologies: extending the capability of LTE to include LPWA services; doing likewise but with GSM; and entirely new, as yet undefined standards, referred to as a 'clean slate' technologies. It hopes to draw up an initial specification by the end of 2015, followed by a first implementation in early 2016, with a view to full commercial solutions later next year. "The market opportunity for LPWA will be a significant driver in the development of the IoT and it's essential that the mobile industry address the requirements for LPWA cases early on," said Alex Sinclair, acting director general and CTO of the GSMA, in a statement last week. The Mobile IoT Initiative is backed by 26 operators and vendors, including the likes of AT&T, China Mobile, Vodafone, Ericsson, Huawei, Nokia, Alcatel-Lucent and Qualcomm, among others (see below for the full list). "The industry is clearly united behind the Mobile IoT Initiative, providing a common vision to accelerate the availability of industry-standard solutions, removing market fragmentation and accelerating adoption," Sinclair said. Last week's announcement represents a ramp-up in the GSMA's efforts around M2M and IoT, which until now have been covered under its Connected Living program. However, as with other ill-fated GSMA initiatives – like the Wholesale Applications Community (WAC), and its

Joyn-branded Rich Communication Services (RCS) – there is a risk that Mobile IoT Initiative is already too late to the party to have much of an impact. Momentum is already building behind M2M technologies like LTE-M, a version of LTE designed to provide long range, low power IoT and M2M coverage using licensed spectrum. Then there are technologies that use unlicensed spectrum to consider. The LoRa Alliance is an industry group lobbying for the adoption of the long range WAN (LoRaWAN) specification for low power wide area network (LPWAN) technology. LoRaWAN could be particularly useful for IoT services targeted at remote, battery-powered devices because it can transmit small volumes of data over long distances using unlicensed spectrum, and it only needs a small amount of power to do so. French telco Bouygues Telecom is a big fan, having launched a LoRa IoT network in June. It remains to be seen whether the GSMA's Mobile IoT Initiative can buck its recent record of heroic defeats. (August 24, 2015) [totaltele.com](#)

"The GSMA welcomes the strong decisions that African governments took at this week's meeting of the ATU to foster the growth of mobile broadband across the continent. By coming together and agreeing unified proposals, they have shown their support for making more spectrum available to meet the mobile broadband needs of their citizens. "The upcoming WRC-15 conference in Geneva will determine what spectrum bands will be allocated for mobile services. These decisions will determine the future of the mobile internet. This is particularly important for Africa, the world's fastest growing mobile region, where mobile broadband is often the only way for people to access the internet. Additional spectrum will be vital in providing the capacity needed to support mobile broadband growth across the region and help bridge the digital divide. "The ATU is a highly influential member of the international community and decisions coming out of Africa are increasingly shaping policy in other regions. The GSMA is, therefore, pleased with the ATU's decision to support the L-band for mobile. This band has the potential for widespread global support at WRC-15, driving economies of scale that will benefit consumers in Africa and elsewhere. "There is more work to be done to ensure there is sufficient spectrum allocated for mobile broadband. Increased support for an allocation in the sub-700MHz UHF band, which offers good geographic coverage, will be essential for connecting rural communities in Africa. "There is also a need for higher frequency spectrum to meet the intense urban capacity demands and give city dwellers in Africa access to high-speed mobile broadband. African governments have made progress on recognizing this growing need and we encourage final decisions to allocate more spectrum to mobile in these capacity bands, specifically 2.7-2.9GHz and 3.6-3.8GHz. "This November, we will urge all the governments of Africa to make a clear and strong call for significantly more mobile spectrum to realize the ambitions of a digital economy and to create a truly connected society." (July 24, 2015) [businesswire.com](#)

Guinea Bissau



Telecoms watchdog Autoridade Reguladora Nacional das Tecnologias de Informacao e Comunicacao (ARN) has given domestic mobile operators MTN Guinea-Bissau and Orange Bissau until August 15 to resolve the technical problems currently blighting their services. ARN called high ranking officials from the two cellcos to a meeting to set out its position that it will not



accept the high levels of dropped calls users are facing, or the fact that at times consumers find it impossible to place a call on either network. The chairman of the regulatory authority, Djibril Mane, confirmed that the meeting was called in the wake of a review earlier this year into mobile service quality and the need for the two companies to provide nationwide coverage. Both MTN and Orange have been advised on the improvements they could make, Mane said, noting a positive response from both firms. 'As you know, ARN has the power granted to it by the law. It is not only a regulatory and supervisory authority, but also promotes activities to develop the sector in Guinea-Bissau,' the chairman said. The mobile market in the tiny African nation of Guinea-Bissau is home to three operators – MTN Guinea-Bissau (Areeba), formerly Spacotel Guinea-Bissau, a wholly owned subsidiary of South Africa's MTN Group; Orange Bissau, which is 90%-owned by Sonatel of Senegal, itself a 42.33% subsidiary of Orange Group; and Guinetel, the 100% owned mobile arm of national fixed line operator Companhia de Telecomunicacoes da Guine-Bissau (Guine Telecom) – which between them counted a total of 1.171 million subscribers at end-March 2015, a cellular penetration of 67.0%. (July 28, 2015) telegeography.com

India



The Indian government has given the go-ahead to spectrum-sharing between mobile operators in the same telecoms circle. Deals will be restricted to companies that both have the same type of spectrum, the Economic Times explained. So two telcos with 4G spectrum in the same circle would be permitted to share, for example. However, operators will not be allowed to lease spectrum to one another. In addition, the government did not address the issue of spectrum trading. Citing an unnamed source, the paper said operators had expressed concerns that the state's proposed trading rules would see them taxed twice on spectrum. The lack of clarity on spectrum trading is standing in the way of any serious consolidation in the mobile market. Until the government has made a final decision on the rules, telcos are unlikely to make any M&A moves. Regarding sharing, the government has provided highly-structured rules based on the price paid for airwaves; if one operator paid more for spectrum than the operator it aims to partner with, they will be required to equalize the value of the frequencies through the sharing agreement. The government will also levy an additional fee on shared spectrum, increasing operators' spectrum usage charge by 0.5% on shared airwaves. Operators are allowed to share spectrum for a period of five years with the possibility to extend for another five. No operator is permitted to hold more than 25% of the airwaves in a single circle or more than 50% of a single band. "Sharing will allow efficient utilization of bandwidth and help address issues of call drop and call congestion," India's telecoms minister Ravi Shankar Prasad told the Economic Times. (August 13 2015) totaltele.com

India's telecoms operators are not ready to invest in 700-MHz spectrum, despite its potential for the expansion of mobile broadband services, it emerged this week. The operators are lobbying for a delay of two years before any sale of spectrum in the 700 MHz band to give more time for them to create business plans and for the ecosystem to mature, the Economic Times reported on Tuesday. With regard to the former, the need to develop business plans could be more accurately explained as the need to find the money for the spectrum. The paper noted that India's telcos are facing a collective debt burden of

around 3 trillion rupees (€43 billion). Mobile industry body the Cellular Operators Association of India (COAI) is calling on the government to lay out its roadmap for the planned allocation of the 700 MHz band. Having a timetable in place will make it easier for operators to plan for the auction, as well as facilitating the development of the relevant network equipment and device ecosystems. The call comes a day after the same newspaper reported that the Department of Telecommunications (DoT) has requested a proposal from the Telecom Regulatory Authority of India (TRAI) regarding the reserve prices for spectrum in various different bands that is due to be sold off as early as next year. The DoT has included the 700 MHz band in that request, but has yet to make a decision on whether those airwaves will form part of the 2016 auction. (July 28, 2015) totaltele.com

Government said telecom operators may face heavy penalties or suspension of licenses if they fail to stop unauthorized interception of communications and maintain "extreme secrecy" of citizens' messages. Interception and monitoring of communication messages is governed by the provisions of Indian Telegraph Act which empowers Central and state governments to carry out interception under stipulated conditions, Telecom Minister Ravi Shankar Prasad said in a written reply to the Lok Sabha. The Minister said rule under Indian Telegraph Rules provides that service providers shall put in place adequate internal checks to ensure that unauthorized interception of messages does not take place. (July 22, 2015) dnaindia.com

The government is contemplating setting up a special monitoring body to check whether mobile operators and internet service providers are adhering to fair practices in terms of providing access to various websites on equal terms — what is called net neutrality in industry parlance. Sources said that the proposed body is likely to be set up once the government clearly defines what is net neutrality and lays down a proper law regarding it. Currently, there's no such law and regulation which governs net neutrality. However, a department of telecommunications (DoT)-appointed panel has recently submitted a report on the subject to the government. Separately, the Telecom Regulatory Authority of India (TRAI) is also preparing its recommendations on the subject through a larger consultative process. The government will take a final call on the subject and frame appropriate rules only after it gets the TRAI's recommendations. Sources said that the proposed is likely to be set up after the entire deliberations are over. DoT officials said that the specialized monitoring body may be set up at the Centre for Development of Telematics (C-DoT), a unit under the DoT.

(July 14, 2015) computer.financialexpress.com

A government panel on Net neutrality has proposed regulation of domestic calls made using Internet-based calling applications such as Skype, Whatsapp and Viber, and put them on par with phone call services offered by telecom operators. The panel has opposed projects like Facebook's Internet.org, which allow access to certain websites without mobile data charges, while suggesting that similar plans such as Airtel Zero be allowed with prior clearance from TRAI. "In the case of Over-The-Top (OTT) VoIP international calling services, a liberal approach may be adopted. However, in the case of domestic calls (local and national), communication services by TSPs (telecom service providers) and OTT communication services may be treated similarly from a regulatory angle for the present. The Committee is chaired by Advisor for Technology A K Bhargava and members in the panel



include A K Mittal, V Umashankar, Shashi Ranjan Kumar, G Narendra Nath and R M Agarwal. Net neutrality implies that equal treatment be accorded to all Internet traffic and no priority be given to an entity or company based on payment to content or service providers such as telecom companies, which is seen as discriminatory. The neutrality debate flared up in India after telecom operator Airtel launched a platform, Airtel Zero, that would allow free access of some websites on its network. However, the companies were asked to pay Airtel for joining the platform. The panel discussed Facebook's Internet.org and said that until April 2015, Internet.org users could have free access for only a few websites, and Facebook's role as gatekeeper in determining what websites were on that list was seen as violating Net neutrality. The panel said that "collaborations between telecom operators and content providers that enable such gate-keeping role to be played by any entity should be actively discouraged". At the same time, the panel approved allowing zero rating platform after telecom operators compared it with a toll-free number. It said there is a multitude of possibilities in designing tariff plans and everything cannot be validated in advance on parameters of Net neutrality. The panel proposed "ex-ante determination" and "ex-post regulation" model for dealing with tariff plan, including zero rating. Under ex-ante determination, the panel has proposed telecom operators to follow current practice of filing tariffs before the Telecom Regulatory Authority of India and the regulator should carefully vet it on scale of Net neutrality before giving its nod. In line with demand from telecom operators, the panel has recommended that OTT players should be brought under regulation to comply with national security norms like telecom operators in the country do. "National security is paramount, regardless of treatment of Net neutrality. The measures to ensure compliance of security related requirements from OTT service providers need to be worked out through inter-ministerial consultations," the report added.

(July 15, 2015) firstpost.com

Indonesia

 Ministry of Communication and Information Technology (MCIT), also known locally as Kemenkominfo, will soon publish details of its Broadband Integrated Rural Development program covering several cities/districts under the auspices of its 'Regulation of the Border Management Agency No 1 of 2015', which is designed to develop internet and IT access applications in remote parts of the country. In the initial phase, MCIT is looking to roll out broadband access and applications in 50 village communities, to which end it is looking for local app developers to help participate in the program. Kemenkominfo intends to provide the infrastructure needed for the applications hosted in order that the plan can be run properly. The ministry believes that its integrated rural broadband project has the potential to be accessed by between 40 million and 50 million users, primarily via smartphones. (August 11, 2015) IndoTelko

Minister of Communication and Information Technology, Rudiantara, has suggested that companies holding regional licenses for broadband wireless access (BWA) services in the 2.3GHz band consolidate in order to better compete in the modern data era. IndoTelko quotes the minister as saying: 'I suggest BWA players who have regional license consider consolidation. It will make them stronger'. According to him, market consolidation among BWA providers will improve economies of scale and allow them to negotiate better terms when

considering matters such as interconnection. The government plans to auction an additional 30MHz of frequencies in the 2.3GHz band in 2016 and with previous auctions typically favoring incumbents, Rudiantara says that it is in the interest of companies looking to compete at a national level to discuss consolidation. There are currently nine firms holding frequencies in the 2.3GHz band for BWA, but only three – PT Internux, First Media and Berca Hardayaperkasa (WiGO) – have launched commercially, with the first two named working together on the successful Bolt! Service. In April 2009 the Ministry of Communication and Information Technology (MCIT) auctioned off 2.3GHz spectrum in 15 regional zones, with each zone gaining two BWA licensees. Reserve prices ranged between IDR45 million and IDR15.1 billion (USD4,300 up to USD1.12 million) for each licence. The franchise regions included three zones in Sumatra, four zones in Java, two zones in Kalimantan, and one zone each for Bali, Nusa Tenggara, Papua, Maluku, Sulawesi and Riau Island. Of the 15 zones, those in Greater Jakarta and Banten were offered at the highest prices, while the lowest fees were for Papua and Maluku. No fewer than 73 telcos expressed an interest in the 2009 auction. (July 27, 2015) telegeography.com

Ministry of Communications and Information Technology has said it intends to review the legal position concerning the licensing of over-the-top (OTT) service providers, with a view to treating them the same as traditional telcos. Local online portal IndoTelko quotes the communication and IT Minister Rudiantara as saying that with regulations for mandating OTT operators to have licenses similar to those of telcos under discussion in Europe, Indonesia intends to study new regulations for the local market after decisions have been taken there. According to the minister, if it is agreed that an OTT provider must be licensed, then that should be done on the same terms as a service provider. 'We are aiming to resolve the international OTT players first, then the locally owned OTT players, as they must be treated equally. I already urged foreign players to establish their companies in Indonesia, so they will not be surprised when the new regulation is issued,' he said. Rudiantara added that the proposed new license obligation on OTT providers would be 'more effective' because it will include a stipulation that they must also pay a telecommunication Operation Rights Fee (or BHP). (July 16, 2015) telegeography.com

Italy

 PM Matteo Renzi details €12 billion broadband plan as country seeks to close digital divide. The Italian government is ready to hand over the first €2.2 billion of a broader national ultrafast broadband investment pot. The funds are now available, Italian Prime Minister Matteo Renzi announced at a press conference late last week. "Today we are putting on the table [an] immediately available €2.2 billion," Renzi said. The funds form part of an ambitious ultrafast broadband rollout plan that is valued at €12 billion in total, Renzi explained. €5 billion of the sum will come from the private sector and €7 billion from the state, he said. Of that €7 billion, the government will provide €4.9 billion, while the remaining €2.1 billion will come from regional institutional funds. The first projects under the scheme will get underway in the autumn. The aim is ensure "complete coverage of the country, so there is not even a single zone left behind," Renzi said. The participation of the private sector will be necessary in order for the state to realise its goal of making ultrafast broadband available to all Italian citizens by 2020, added Antonello



Giacomelli, undersecretary of communications, in a statement. "We are marching at high speed towards ultrafast broadband," Renzi said, describing the improved connectivity as "truly the key to the country."

(August 10, 2015) totaltele.com

Kenya



The Communications Authority is set to introduce new regulations to prevent large telecoms operators from abusing their dominant position in the sector, but has denied claims that the rules are targeted at mobile market leader Safaricom. The amendments to the sector's competition law will give the regulator more powers to declare a firm to be dominant, a step that could lead to penalties if it is determined that an operator was abusing its position in the market. According to Francis Wangusi, the Director General of Communications Authority, a consultant will be hired to carry out a study of the telecoms, postal and broadcast markets, but said it could take up to 18 months to determine if any player was dominant – defined as having more than a 50% share of a market segment. He denied media reports that the regulations were targeted at mobile market leader Safaricom, which is 40%-owned by UK's Vodafone Group and which held a 68.4% share of Kenya's 34.13 million wireless customers at end-March 2015. Wangusi said the new regulations would further break down the telecoms sectors into segments, including mobile and fixed voice, data, text messaging and mobile money transfer services. (August 21, 2015) reuters.com

The Communications Authority has published its statistical report for the three months ended March 31, 2015, in which it reveals that the total number of mobile subscriptions rose to 34.79 million from 33.63 million the previous quarter and 31.83 million at end-March 2014. Safaricom accounted for the lion's share of total wireless customers (67.1%, 23.35 million), followed by Airtel Kenya with a market share of 20.2% (7.02 million) and Telkom Kenya (Orange), which reported 3.77 million wireless users at end-March 2015 to give it a share of 10.8%. The market's only mobile virtual network operator (MVNO), Finserve Africa (Equitel), had signed up a total of 665,661 customers by March 31, 2015, representing 1.9% of the total wireless sector. Finserve Africa, a subsidiary of regional bank Equity Group, was awarded one of three MVNO licenses by the regulator in April 2014, and says its mobile service aims to make banking more accessible and affordable by enabling customers to apply for loans, transfer money, pay bills and carry out cross-border transactions using their wireless handsets. Mobile data subscriptions rose from 13.26 million to 18.68 million over the twelve-month period, with Safaricom accounting for 12.15 million of the total, followed by Airtel with 3.45 million, Orange with 2.42 million and newcomer Finserve Africa (Equitel) with 665,661. As at March 31, 2015 the Communications Authority of Kenya reported 87,838 fiber-optic broadband subscribers (up from 69,377 twelve months previously), 16,148 terrestrial wireless data customers (16,540), 14,685 xDSL connections (12,547) and 836 satellite broadband users (700). Wananchi Telecom remains the fixed broadband market leader, accounting for 46.8% of all customers at end-March 2015, followed by Liquid Telecom (15.3%), Telkom Kenya (10.1%), Access Kenya (9.6%) and Safaricom (6.9%). Kenya ended the period under review with a total of 202,905 fixed telephony lines in service (down from 206,129 a year earlier), including 91,373 fixed terrestrial connections and 111,532 fixed-wireless lines. (August 5, 2015) telegeography.com

Kyrgyzstan



Kyrgyzstan's National Communications Agency (NCA) has postponed the deadline for pre-paid SIM card registration to October 1, 2015, in the event of the failure of domestic operators to get all SIMs registered by the August 8 target. According to the NCA, as on August 7 there were 1,082,044 unregistered pre-paid subscribers in the country. The NCA initially introduced legislation stating that from March 2014 all Kyrgyz SIMs were to be registered – with existing subscribers initially given until end-March 2015 to complete the registration process. Due to the cellco's collective failure to meet the deadline, the time-frame was subsequently extended by five months. Under the legislation, any SIMs not registered by the deadline date face disconnection. (August 11, 2015) telegeography.com

According to Kyrgyzstan Investment Agency for Development and Innovation the Kyrgyz government is proposing the construction of a national cellular network. Total investment of around US\$67.3 million is invited, with the infrastructure of state-owned operator Kyrgyztelecom set to be used as the base for the network. According to the article, 100 of the telco's base transceiver stations (BTS), the company's main switchboard, SMS platform and billing and service centers will all be utilized by the new network. The deployment of the project is expected to take place over the next three years, while approximately 500 base stations will be deployed in total, utilizing Single RAN technology to support CDMA, UMTS and Long Term Evolution (LTE) platforms. (July 8, 2015) Tazabek

Liberia



Industry regulator the Liberia Telecommunications Authority (LTA) has finally completed its transition to a new technology neutral Universal License Regime, allowing local operators to roll out a wide range of access technologies to suit their business models without having to seek individual permits for each technology employed. The introduction of the new regime is being welcomed as open technology licensing could prove the spur to drive much needed inward investment in the country's telecoms market, not least because universal concessions will not carry additional licensee fees – as has been the case in the past. Following a protracted period of discussions with Liberia's telecoms operators and other stakeholders, the LTA has finally implemented the new regulations that allow operators to smoothly migrate to the new framework. It is understood that thus far, mobile operator Cellcom Telecommunications is the only company to have successfully concluded negotiations for its new universal licensee, with talks finalized last week. Cellcom's new licensee – as will be the case with all new awards – carries a levy equivalent to 3% of gross turnover (per annum), rather than a fixed annual fee. The fee is on top of an operator's standard regulatory fees for spectrum allocations and number blocks, and other administrative fees due to the LTA. (July 15, 2015) FrontPageAfrica

Lithuania



The Communications Regulatory Authority (RRT) has initiated a public consultation regarding its planned auction for spectrum in the 880MHz-915MHz and 925-960MHz paired frequency ranges, as well as the 1710MHz-1785MHz and 1805MHz-1880MHz paired



bands. The country's three mobile network operators Omnitel, Tele2 and Bite Lithuania have the right to use the frequencies for wireless telephony and data services until October 31, 2017. The draft document details the auction procedure, reserve prices, qualification requirements for participants and other conditions of the planned sale. All interested parties are able to submit comments and suggestions on the plans to the RRT by September 14, 2015. (August 14, 2015) telegeography.com

Macedonia



Macedonia's Commission for Protection of Competition has granted its conditional approval for the sale of Telekom Slovenije's domestic unit ONE to Telekom Austria, in a move that could pave the way for completion of the privatization of the Slovenian parent. The regulator's approval of the merger between ONE and Telekom Austria's local subsidiary – Vip Operator – is conditional upon the full implementation of a commitments package submitted by the two companies, including the provision of mobile virtual network operator (MVNO) access to interested parties. In January 2015 Vip Operator and ONE inked an agreement to merge their operations, subject to regulatory approval. The conclusion of the merger agreement is in line with a 'Shareholders and Implementation Agreement' signed on October 22, 2014, under which Telekom Austria will hold a 55% stake and have sole control of the newly created entity, while Telekom Slovenije will hold the remaining 45%. Meanwhile, in June 2015 UK-based private equity firm Cinven altered the terms of its original May 20 binding offer for Telekom Slovenije to take into account the uncertainties surrounding the ongoing merger of ONE and its local rival Vip. Cinven wanted to defer some of its payment for Telekom Slovenije until the Macedonian deal had been cleared by regulators, but Slovenian state firm SDH (which is coordinating the sale of Telekom Slovenije) said the altered terms were 'too big a risk'. Cinven claims it will revisit the Telekom deal once the situation in Macedonia is resolved.

(July 9, 2015) telegeography.com

Madagascar



Airtel Madagascar has renewed its telecoms license for ten years as of 9 July 2015. Due to expire in September 2015, the concession has been extended by the Agency for Regulation of Technology and Telecommunication (ARTEC) ahead of schedule, and permits the Bharti Airtel subsidiary to continue operating 2G and 3G networks in the country, while also allowing for a future rollout of 4G services. The operator's CEO, Maixent Bekangba, commented: 'Airtel Madagascar ... through this initiative wants to show its determination to work in the long term for connectivity of the Malagasy population.' The price of the licence extension has not been disclosed. Airtel Madagascar launched its 2G and 3G operations in November 1997 and July 2012, respectively. Meanwhile, Bharti Airtel disclosed in its 2014 financial report that it had obtained an authorization from the ARTEC to trial 4G Long Term Evolution (LTE) services 'based on existing frequencies', although the operator has not yet revealed an intended launch date for its 4G network.

(July 28, 2015) Agence Ecofin

Maldives



The Communications Authority of Maldives (CAM) has reported that fixed broadband subscribers stood at 21,520 at the end of June 2015, up from 19,993 twelve months earlier. Mobile telephony customers in the Maldives grew 7.9% from 651,461 to 703,246 over the same period, with pre-paid users accounting for the majority (88.3%, or 621,302) of wireless users at mid-2015. Mobile broadband customers reached 196,204 at that date, up 43.4% from 136,777 a year earlier. According to the regulator, the number of fixed telephony lines in service (including payphones) fell from 23,202 at mid-2014 to 22,233 a year later. In other news, the CAM says it has awarded the country's third internet service provider (ISP) license to mobile network operator Ooredoo Maldives. The Qatari-owned company will join two other ISPs in the fixed broadband market, Dhivehi Raajjeyge Gulhun (Dhiraagu) and Focus Infocom (Raajje Online). The latter received its ISP license in May 2003, ending Dhiraagu's monopoly in the sector when it launched services the following November. The CAM invited interested parties to apply for the third ISP license at the end of April 2015. (August 18, 2015) telegeography.com

The Communications Authority of Maldives (CAM) will introduce mobile number portability (MNP) in October, enabling the wireless customers of Dhiraagu and Ooredoo Maldives to retain their number if they switch provider. Haaveru Online quotes the CAM's CEO Ilyas Ahmed as saying that a lack of portability equipment – which had to be brought in from abroad – had previously delayed the introduction of MNP, which was originally scheduled for 31 July 2015. 'In truth, it's not much of a delay. We need to completely overhaul the Dhiraagu and Ooredoo systems in order to introduce the service. It's an expensive task and requires a lot of work,' Ilyas noted. (August 7, 2015) telegeography.com

Mauritania



Mauritel has secured a ten-year extension to its existing 2G license, its parent company Maroc Telecom has confirmed. The operator has paid a fixed fee of MRO10 billion (US\$30.2 million) for the concession, and will also be subject to a 'variable annual charge' amounting to 2.5% of its 2G sales for the duration of the license. Mauritel claimed a total of 2.133 million wireless subscribers as of 30 June 2015, up 13.6% year-on-year.

(July 24, 2015) telegeography.com

Mexico



America Movil revealed it is under investigation by Mexican watchdog IFETEL on grounds that the partnership between its fixed-line unit Telmex and satellite TV provider Dish may have breached multiple regulations. America Movil's over-the-top (OTT) TV service Uno TV is also under investigation. The development will come as a blow to the telecoms giant, which was nearing the end of an 18-month compliance period after which it would have been permitted to apply for a TV license. Dish and Telmex established a partnership in 2008 that enabled the latter to issue a single bill for broadband and TV services to customers. Rivals including Grupo Televisa complained that it broke rules preventing America Movil from offering TV services. A similar row broke out when America Movil launched its over-the-top (OTT) video service Uno TV, also in 2008. America Movil said



the investigation by Ifetel, also known as IFT, centers on whether Telmex's Dish tie-up and its Uno TV service violated those rules. Ifetel is also looking into whether America Movil is in breach of its "must carry" rule governing the retransmission of TV broadcast signals via other operators. America Movil and Telmex are "currently analyzing the scope and legal grounds of the alleged violations in order to participate in such proceedings and, as the case may be, exercise applicable legal remedies," said America Movil, in a statement. In January this year, Ifetel imposed fines of 14.4 million pesos (€741,000) on Telmex and MXN43 million on Dish Mexico for not disclosing the full extent of their commercial agreement. Under the terms of the partnership, America Movil had an option to acquire a 51% stake in Dish Mexico, an option it subsequently waived in July 2014. However, Ifetel said that the companies failed to disclose what effectively amounted to a merger when the deal was first struck in 2008. (August 26, 2015) totaltele.com

Mexican telecoms regulator IFETEL has announced that as part of its 'Plan Nacional de Espectro Radioelectrico', it will make available spectrum in the 2.5GHz band (2500MHz-2690MHz) 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). In its press statement, IFETEL said: 'This scheme has a sufficiently broad set of contiguous blocks of spectrum that allows the deployment of broadband technologies using the Frequency Division Duplex (FDD)-LTE or Time Division Duplex (TDD)-LTE methods'. In June it was revealed that senior AT&T Inc executives had approached IFETEL with a request for a 50MHz block of frequencies in the 2.5GHz band. AT&T has a presence in Mexico via its newly acquired Iusacell and Nextel mobile units, and also stands to gain a 41.3% stake in pay-TV operator Sky Mexico via its ongoing takeover of international pay-TV giant DirecTV merger. (July 7, 2015) telegeography.com

Moldova



The National Regulatory Agency for Electronic Communications and Information Technology (ANRCETI) has opened a public consultation on two sets of draft resolutions for the allocation of frequencies in the 800MHz, 880MHz-890MHz and 925MHz-935MHz bands (collectively known as the "e900MHz" band), 2100MHz, 2500MHz-2690MHz and 3400MHz-3800MHz frequency bands. The consultation will run until 25 August 2015. The regulator has listed the available spectrum authorizations in the aforementioned bands as follows:

- one license in the 790MHz-862MHz band (Class A);
- two paired allocations in the e900MHz band (Class B: 880MHz-915MHz/925MHz-960MHz);
- two concessions in the 2100MHz band (Class C: 1920MHz-1980MHz/2110MHz-2170MHz and Class D: 2010MHz-2025MHz);
- three concessions in the 2500MHz-2690MHz band (Class E: 2500MHz-2520MHz/2620MHz-2640MHz; Class F: 2560MHz-2570MHz/2680MHz-2690MHz; and Class G: 2575MHz-2615MHz);
- eight licenses in the 3400MHz-3800MHz band (Class H).
- ANRCETI will award the available spectrum in a "combinatory clock" auction, which was deemed the

most appropriate auction method for simultaneous multi-band license allocations. The issued licenses will be valid for 15 years and will give the winners the rights to use the spectrum for the deployment of networks using IMT-2000, UMTS (W-CDMA), Long Term Evolution (LTE), IMT-Advanced technologies, broadband wireless access (BWA) and fixed wireless access (FWA) services. (August 11, 2015) lte-tdd.org

The National Regulatory Agency for Electronic Communications and Information Technology (ANRCETI), has opened a public consultation on two sets of draft resolutions for the allocation of frequencies in the 2500MHz-2690MHz and 3400MHz-3800MHz frequency bands. The regulator outlined its plans to limit the number of authorizations issued in the 2500MHz-2690MHz band – which will give the winners the rights to use the spectrum for the deployment of networks using IMT-2000, UMTS (W-CDMA), Long Term Evolution (LTE) and IMT-Advanced technologies – to three: 2x20MHz paired blocks (frequency division duplex, FDD) in the 2500MHz-2520MHz/2620MHz-2640MHz band; 2x10MHz FDD blocks in the 2560MHz-2570MHz/2680MHz-2690MHz band; and 1x40MHz (time division duplex, TDD) block in the 2575MHz-2615MHz band. Meanwhile, the regulator proposed that the authorizations in the 3400MHz-3600MHz band, suitable for broadband wireless access (BWA) and fixed wireless access (FWA) services, should be limited to eight sub-blocks of 50MHz: 3400MHz-3450MHz; 3450MHz-3500MHz; 3500MHz-3550MHz; 3550MHz-3600MHz; 3600MHz-3650MHz; 3650MHz-3700MHz; 3700MHz-3750MHz; and 3750MHz-3800MHz. The regulator has invited all interested parties to submit their comments on the topic until July 17. In November 2010 Moldova's Ministry for Information and Communication Technologies (MTIC) adopted a program to develop broadband internet access for 2010/13, including the allocation of frequencies in the 2500MHz-2690MHz and 3400MHz-3800MHz bands. Despite several attempts to auction the aforementioned spectrum, the government failed to attract any bids. (July 7, 2015) telegeography.com

Mozambique



Mozambican telecoms regulator the Instituto Nacional das Comunicacoes de Mocambique (INCM) has revealed plans to investigate the use of so-called 'white space' spectrum for rural broadband use. According to a statement from the watchdog, the pilot project – named TV-White Spaces (TVWS) – will be carried out in association with local broadband provider Internet Solutions (IS) alongside the Fundo do Servico de Acesso Universal (FSAU), the International Centre of Theoretical Physics (ICTP) and the Centro de Informatica da Universidade Eduardo Mondlane (CIUEM). The tests will take place in Boane, a municipality situated in the Maputo province, and utilize unused spectrum in the 470MHz to 790MHz range. (August 5, 2015) telegeography.com

Myanmar



Myanmar's fourth mobile license has drawn applications from 17 local companies, it emerged this week. The country is setting up a consortium of players to run its fourth mobile network and will announce the names of the winners in September, Reuters reported, citing an official from the Ministry of Communication and Information Technology (MCIT). There is no limit to the number of local players that



will be permitted to join the consortium, the newswire added. One of the parties will presumably be ISP Yatanarpon Teleport (YTP), although there was no mention of the company in the Reuters report. Myanmar overhauled its telecoms market two years ago and since then incumbent Myanma Posts and Telecommunications (MPT) and foreign operators Telenor and Ooredoo have begun offering mobile services. YTP was named as the country's fourth mobile operator and was reportedly looking for partners, but has not been mentioned in MCIT announcements recently. Chit Wai, a deputy permanent secretary at MCIT, on Wednesday said that once the local consortium members have been selected, the ministry will appoint an international consulting firm to help it select a foreign partner for the venture. MPT took a similar path, partnering with Japanese mobile operator KDDI and conglomerate Sumitomo Corporation. The fourth license will be valid for 15 years and will likely be granted before the end of the year, Chit Wai told Reuters. (August 26, 2015) totaltele.com

Myanmar has formally invited domestic companies to apply to join a consortium that will eventually become the country's fourth mobile operator. In a statement on Sunday, the Ministry of Communications and Information Technology (MCIT) said interested parties must have a registered capital of at least 3 billion kyat (€2.3 billion) and must submit their application no later than 24 August. Successful applicants will join state-owned ISP Yatanarpon Teleport (YTP) in a special purpose vehicle. The group will then seek a foreign joint venture partner to help it roll out a new nationwide mobile network. Myanmar's mobile market effectively lay dormant until the government awarded licences to two international telcos – Telenor and Ooredoo – in mid-2013. The pair launched services a year later and operate alongside state-owned incumbent Myanma Posts and Telecommunications (MPT), which has partnered with Japan's KDDI. Mobile uptake in Myanmar has soared since then. In July, Telenor revealed its subscriber base had surpassed 10 million, while Ooredoo had 3.3 million at the end of April. In June, it emerged that Myanmar is also working on a spectrum allocation policy that will enable it to increase the availability of sub-1-GHz frequencies, specifically the 700 MHz, 850 MHz, and 900 MHz bands. (July 27, 2015) totaltele.com

New Zealand



The latest report from the New Zealand government on the progress of its Ultra Fast Broadband (UFB) and Rural Broadband Initiative (RBI) schemes show that more than a million homes now have access to high speed services under the projects. Till June 30, 2015 724,000 homes, schools and businesses were covered by UFB fiber networks, while a further 269,000 premises in rural areas were covered by upgraded fixed and wireless infrastructure under the RBI rollout. The UFB networks had 106,025 users at the same date. 'The UFB build is over the halfway mark and as the network expands, the rate at which people are signing up for fiber is accelerating,' said Minister for Communications Amy Adams. 'At 14.6%, the uptake rate has quadrupled from what it was two years ago,' she added. The UFB rollout to schools is now 96% complete, with 2,324 establishments covered; all schools will have access to fiber-based services by the end of the year.

(August 11, 2015) telegeography.com

New Zealand's Commerce Commission published its latest draft decision on the pricing of wholesale copper broadband, proposing to allow Chorus to increase its rates, despite a fierce campaign for lower prices from retail operator Spark. The Commission proposed a wholesale price of NZ\$38.43 per month for broadband – including unbundled copper local loop (UCLL) and unbundled bitstream access (UBA) – for the next five years. That figure is essentially in line with its previous proposal late last year (see chart) and almost NZ\$4 higher than the price Chorus is currently allowed to charge. 'The modelled price released today is very similar to the draft we released in December and continues to reflect that New Zealand's local loop network is unique when compared to overseas benchmarks,' said telecoms commissioner Stephen Gale. 'We have done further analysis on why this is, and it's clear that our dispersed population is a significant cost factor,' Gale said. Incumbent retail operator has been lobbying for lower prices, pointing out that wholesale copper charges in New Zealand are significantly higher than in other similar markets. Prices are 80% higher than 'the median of countries we like to compare ourselves with,' including major Western European markets, the U.S. and Australia, Spark said in its campaign, which by Wednesday had attracted 52,000 supporters from the general public. But the Commerce Commission rejected Spark's premise. 'Simplistic comparisons of international wholesale broadband prices do not tell the true story,' Gale said. 'New Zealand's average cable length per connection is 64 meters. That is 13 meters more than in Sweden, the nation that most closely resembles our own, and 23 meters more than in France,' he explained, adding that civil engineering costs are also high. Chorus, meanwhile, is still pushing for even higher wholesale rates. 'Chorus continues to believe that the draft pricing significantly undervalues the true cost of network investment in New Zealand,' Chorus CEO Mark Ratcliffe said. 'Extensive data from our network rollout experience, urban UFB pricing agreed with the Crown and the comparable value of the Commission-regulated electricity networks all support the view that aggregate pricing should be at or above 2011 levels,' he said. Prior to December 2014, Chorus was able to charge \$44.98 per month for wholesale copper broadband connections. Chorus has also expressed concern about other areas of the Commission's draft decision, namely its proposed reduction in transaction charges and decision not to backdate pricing, and said its submissions to the Commission throughout the remainder of the pricing process in the second half of the year will reflect that. Interested parties have until August 15 to submit their opinions to the Commission, which will make a final determination in December.

(July 2, 2015) totaltele.com

Nigeria



The Nigerian Communications Commission (NCC) has blocked around 10.7 million SIM cards that have been incorrectly or only partly registered with the nation's mobile network operators. Efosa Ideheny, head of the watchdog's Compliance and Monitoring Unit, said at a press conference that out of 38.78 million SIMs that were found to be incorrectly registered in an investigation launched in September 2014, around 10.7 million lines have now been barred by the NCC, following a monitoring exercise conducted across the GSM networks of MTN Nigeria, Globacom, Airtel Nigeria and Etisalat Nigeria. The quarter has been ordered to deactivate the SIM cards within seven days or face sanctions from the NCC. (August 24, 2015) The Daily Trust



Nigeria ended June 2015 with a total of 148.775 million active fixed and mobile telephone subscribers, up from 143.934 million three months earlier and 139.143 million at the start of the year, according to the latest statistics from the Nigerian Communications Commission (NCC). GSM mobile operators accounted for 98.5%, or 146.486 million, of the country's total telephony user base at the end of the second quarter of 2015 (up from 136.772 million users six months earlier), followed by CDMA mobile networks with 1.4%, or 2.106 million customers (down from 2.188 million at 31 December 2014). Fixed line and CDMA fixed-wireless operators claimed just 0.1%, or 182,643, of the total telephony base, down from 183,290 at the end of 2014. According to the NCC, the largest mobile operator by subscribers remains South Africa-based MTN by some margin, with around 62.813 million users on its GSM network at mid-2015, up 2.7% quarter-on-quarter and accounting for 42.3% of Nigeria's total GSM and CDMA wireless subscriber base. Its nearest rival Globacom had roughly half that figure (31.256 million subscribers) at the same date, followed by Indian-owned Airtel Nigeria with 29.564 million and Etisalat Nigeria with roughly 22.852 million wireless customers at 30 June 2015. The country's two remaining active CDMA mobile network operators Visafone and Multi-links had 2.095 million and 10,788 users, respectively. (July 31, 2015) telegeography.com

The Nigerian Communications Commission (NCC) says it has begun the process of developing new regulatory guidelines for the country's telecoms sector. The NCC's executive vice chairman Eugene Juwah is quoted as saying that the exercise forms part of its rule-making process aimed at ensuring wide consultation in the development of a regulatory framework in accordance with the Nigerian Communications Act. When finalized, the updated regulations will provide a more robust framework for carrying out enforcement in the industry, providing guiding standards and principles for enforcement processes and SIM replacement.

(July 23, 2015) Daily Vanguard

Paraguay



The government expects to kick off its long-delayed auction for 4G-suitable spectrum in December this year, online news site ABC Color reports citing comments from Teresita Palacios, the acting president of regulator Consejo Nacional de Telecomunicaciones (Conatel). Mr Palacios, who took over following the recent departure of Eduardo Gonzalez to state-owned telco Copaco, told the newspaper that Conatel personnel are in the midst of making 'final adjustments' to the bidding terms, which will then be offered for public consultation next week. In October 2013 Gonzalez indicated that the watchdog was looking to auction off its AWS spectrum reserves as early as 1H14, although no tender materialized. At that time, Gonzalez noted that international bidders would be allowed to participate in the tender, saying: 'We have some international operators who have made an expression of interest in that band. It is important to generate maximum competition in both the access and the service'. As per previous regulatory documentation, the auction is likely to comprise 40MHz of paired AWS spectrum in the 1730MHz-1770MHz and 2130MHz-2170MHz bands. (August 21, 2015) telegeography.com

Peru



Agency for the Promotion of Private Investment (ProInversion) has delayed the auction of spectrum in the 700MHz band until Q1 2016. Originally scheduled for 2013, the auction 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, although 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. (August 4, 2015) La Republica

Philippines



The Philippines' telecoms industry watchdog, the National Telecommunications Commission (NTC), has announced that it will introduce new rules governing broadband internet connection speeds by early- to mid-August, once it has finalized its draft decision and taken feedback from the public and interested parties. The NTC is currently waiting on input from private sector operators and civic organizations regarding the memorandum circular (MC) it has published concerning broadband services. NTC director of regulations Edgardo R Cabarios noted that everyone with a vested interest is being given time to discuss the matter before 'moving on', noting that there are some contentious issues still in need of resolving. The draft MC stipulates that broadband will be classified as a data connection speed of at least 256kbps, but some argue that this figure should be much higher. For example, interactive media specialist Carlos Nazareno of the group Philippine Flash Actionscribers argues that 256kbps is little more than dial-up and as such is inadequate when dealing with the current size of Web pages (e.g. 2MB/3MB). This position has been supported by other key groups in the tech sector, including the Philippine Web Designers Organization, Game Developer's Association of the Philippines, Philippine Game Development Community, and the Philippine Internet Freedom Alliance. Nevertheless, the NTC is looking to address minimum speeds and the draft MC is seeking to establish formal monitoring and measuring of operators' broadband speeds each month, including the time of the monitoring and the subscriber data plans, to ensure that end users are receiving the best possible service. Mr. Cabarios also reiterated that broadband service in the Philippines will remain as a value added service (VAS), rather than be designated a 'public utility', saying that such a move would require a new law in statute to realize. VAS includes all non-voice services in the telecommunications industry.

(July 30, 2015) BusinessWorld

Poland



Telecoms regulator, the Office of Electronic Communications (UKE), has denied press speculation that it is considering bringing the ongoing 4G spectrum auction to an early end. On Wednesday this week the Polish newspaper Rzeczpospolita carried a story which quoted financial analyst Paul Szpigiel as saying that the watchdog was looking to halt the sale of 800MHz spectrum in September as there was currently no end in sight to the bidding. But the regulator has issued a statement which confirms that only the participants in the auction can determine when the process will finish



and the final prices paid for frequencies. UKE is selling off 19 packets of spectrum in the 800MHz and 2600MHz bands, with the combined total of bids having reached PLN5.95 billion (USD1.58 billion). The 19 lots had a combined reserve price of PLN1.6 billion. Six companies entered the bidding process when it began in February: existing cellcos Orange Polska, T-Mobile Poland, Polkomtel and P4 (Play), plus a company associated with Emitel, and NetNet, which is owned by Szymon Ruta, who has links to Cyfrowy Polsat and Polkomtel. Polkomtel later withdrew from the 800MHz sale, saying it would be better if operators agreed to share spectrum in order to deploy one or two national networks, and it is thought that one firm – speculated as being Emitel – has not been actively participating in the bidding.

(August 14, 2015) telegeography.com

Regulator the Office of Electronic Communications (UKE) has invited bids for spectrum in the 3600MHz band, offering up 23 regional licenses, valid until December 2022. Each of the concessions consists of a 2x5MHz frequency block and a deposit of PLN3,000 to PLN36,000 (US\$802 to US\$9,628) is required depending on the license area. Prospective bidders have until 14 September to submit an offer. (July 31, 2015) telegeography.com

Romania



Telecoms regulator is working on the renewal of mobile licenses in the 3.4 GHz-3.8 GHz bands and last week published a consultation proposing a minimum price of €12.58 million for all the available airwaves. The Romanian National Authority for Management and Regulation in Communications (ANCOM) plans to allocate 16 5-MHz blocks of paired spectrum in the 3.4 GHz-3.6 GHz band and 36 5-MHz blocks of unpaired spectrum in the 3.6 GHz-3.8 GHz band via what it termed a competitive selection process. The former will carry a €370,000-per-block reserve price and the latter €185,000. ANCOM did not specify when that contest will take place, but noted that the licenses allocated will have a 10-year duration from a start date of 1 January 2016. At present, Orange, UPC, Vodafone and 2K Telecom hold licenses – seven between them - in the 3.4 GHz-3.6 GHz band that permit them to offer fixed wireless access (FWA) and nomadic wireless access (NWA) services on a nationwide basis, the regulator said. Meanwhile, state-owned broadcaster Radiocom provides WiMAX-based broadband services using spectrum in the 3.6 GHz-3.8 GHz band. It is the only licensee in that band. All of the existing licenses have an end-2015 expiry date. ANCOM has opened up its proposals for public consultation. Interested parties have until 6 August to respond.

(July 15 2015) totaltele.com

Russia



Russia will hold its planned auction of 1800-MHz spectrum in late September, the regulator announced this week. Roskomnadzor said it will auction off licenses to provide mobile services in the 1710-1785 MHz and 1805-1880 MHz bands on 29 September. Spectrum is available in nine Russian regions at varying price levels. The lowest starting price is half a million Roubles (just under €8,000 at current exchange rates) for 1 MHz of paired spectrum in the Komi-Permyak Okrug of Perm Krai, while 15 MHz of spectrum in the republic of Dagestan starts at RUB240.4 million (€3.8

million). In all cases, winners will be expected to start offering services using the spectrum within a year of receiving their license. Would-be bidders must register to take part in the contest, Roskomnadzor said. (July 8, 2015) totaltele.com

Senegal



Telecoms regulator L'Autorite de Regulation des Telecoms et des Postes (ARTP) has issued Decision No. 2015-009, which confirms that pursuant to the June 23 meeting of the steering committee for the implementation of mobile number portability (MNP), tests on its introduction started on July 22 ahead of the full-blown launch on September 1, 2015. At the end of last year ARTP said it had pushed plans to launch an MNP regime to February 2015 – despite previous assurances that it would go live in October 2014. It was June 2014 when Abou Lo, former Director General of ARTP, said he had signed an edict on MNP guidelines in Senegal, including the process of selecting the firm to manage the running of the single platform for it. Lo's statement followed a similar announcement in October 2013 in which the watchdog confirmed it was conducting a public consultation on a number portability regime, to help achieve an October 2014 launch. Despite the confident statements, the Senegalese population has been waiting patiently for MNP to go live. (July 23, 2015) telegeography.com

Industry regulator L'Autorite de Regulation des Telecoms et des Postes (ARTP) has released its latest update on the country's telecommunications market, highlighting that mobile operators Orange, Tigo and Expresso collectively added a net 319,507 new connections in 1Q15, for a total of 14.699 million. Of the total, an overwhelming 14.602 million are pre-paid users, with post-paid subscribers standing at 96,969 compared to 81,359 at end-March 2014. Cellular penetration – based on the ARTP's calculation – stood at 108.81% at the end of the first quarter, up from 103.07% a year earlier, while Orange was the leading player with a market share of 56.85% (55.52% in 1Q14), ahead of Tigo with 23.34% (24.23%) and Expresso's 19.81% (20.25%). Turning to the fixed line segment, the ARTP reported a continued decline in the number of homes and businesses with a landline, with the total falling to 307,058 at end-March, down from 336,737 a year before. 76.9% of all fixed lines were residential connections at the start of April this year, with business lines accounting for 22.7% and public payphones the remaining 0.4%. Incumbent PTO Sonatel controlled the lion's share of fixed lines in service at 31 March 2015, with 93.2%, having increased its stranglehold on the sector by six percentage points in the year under review, leaving the second operator Expresso with only 6.8%. Similarly, Sonatel dominates the fixed broadband (DSL) market with a 100% market share, although the ARTP noted that the total number of ADSL connections is declining – standing at 102,410 connections at 1Q15, from 108,577 twelve months earlier as users opt increasingly for 2.5G or 3G alternatives from one of the incumbent cellcos for their internet access needs. Indeed, at the end of March cellular internet accesses had climbed to 6.734 million, accounting for 94.2% of all connections, up from 90.8% a year before.

(July 7, 2015) telegeography.com



Serbia



The Serbian government has received non-binding bids from eight companies that meet the conditions to participate in the sale of the state's 58.11% stake in fixed line incumbent Telekom Srbija, Tanjug writes, citing Minister of Trade and Telecommunications Rasim Ljajic. The government commission handling the sale will now decide on a shortlist of companies to proceed to the next stage of the auction, with the possibility that all eight could be allowed to compete for the stake. The shortlist is expected to be finalized by Monday. The following 14 firms had reportedly expressed an interest in bidding for the operator, although some may have pulled out of the race or were not eligible to participate in the sale: Abu Dhabi Investment Authority, Advent International, Apollo Global Management, BC Partners, Colbeck Capital Management, CVC Capital Partners, Deutsche Telekom, the European Bank for Reconstruction and Development (EBRD), Vivacom (registered as Bulgarian Telecommunications Company, BTC), Mid Europa Partners, Mobile TeleSystems (MTS), Novator Partners, Telekom Slovenije and Turkcell. (August 13 2015) telegeography.com

Serbia's privatization agency has called for offers for a controlling stake in state-owned telco Telekom Srbija. Late last week the body issued a set of rules for companies interested in owning the operator. Interested parties are required to show that they have recorded annual telecoms-related revenues of €500 million or have €2 billion worth of assets under management, as of the end of last year, the agency said in a local language statement. The Serbian government holds 58.1% of Telekom Srbija. It is expected to raise in the low billions of euros from the sale. The state abandoned a previous attempt to privatize the operator in 2011 after it failed to attract sufficiently attractive bids. It rejected a €1.1 billion offer from Telekom Austria in the first half of the year, having stated that it aimed to raise at least €1.4 billion from the process. Vimpelcom, Deutsche Telekom, America Movil and Turkcell also showed interest in the operator at that time. France Telecom was named as a potential buyer, but declined to participate in the sale as it deemed the asset too expensive. Greece's OTE held a 20% stake in Telekom Srbija from the late 1990s until early 2012 when it sold the shares back to the state for €380 million. Similarly, Telecom Italia sold back a 29% stake in the telco for €195 million in 2003. Those interested in taking part in this latest privatization attempt have until 23 July to submit their phase one documents. Those that qualify for stage two will have until 2 August to submit their bids. (July 6, 2015) totaltele.com

Singapore



Singapore has proposed facilitating the entry of a fourth mobile operator by reserving a chunk of spectrum and selling it at a discount. The Infocomm Development Authority of Singapore (IDA) plans to allocate 225 MHz of spectrum for mobile broadband use in early 2016. The candidate frequencies are in the 700 MHz, 900 MHz, 2.3 GHz and 2.5 GHz bands. The regulator has proposed indicative reserve prices of S\$20 million (€13.4 million) per 5 MHz of paired spectrum in the 700 MHz and 900 MHz bands, and S\$5 million per 5 MHz block of spectrum in the 2.3 GHz and 2.5 GHz bands. In order to attract new players to Singapore's mature mobile market, the IDA

has proposed reserving 60 MHz of that 225 MHz and offering it with a reserve price of just S\$40 million for the full amount. It did not specify which bands would make up the 60 MHz. "This is in recognition of the fact that a new entrant will face entry barriers in a mature market, given the significant upfront capital investments required to deploy nationwide services for consumers," the IDA said in a statement. The winner of the reserved spectrum would be required to reach nationwide coverage by the end of September 2018. "A new entrant is likely to bring about a wider variety of innovative services and more competitive offerings to the benefit of end-user," the IDA said. The IDA has launched a public consultation proposal, giving interested parties until August 12 to submit feedback. (July 8, 2015) totaltele.com

Slovakia



The Office for Electronic Communications & Postal Services (RU) has announced the results of its wireless broadband license auction in the 3400MHz-3600MHz frequency band. Cellcos O2 Slovakia and SWAN each won nationwide FDD spectrum concessions, with respective bandwidths of 2x20MHz and 2x10MHz, paying one-off fees amounting to a total of EUR2.434 million (USD2.689 million), the regulator announced on its website. In other news at SWAN, the Slovak LTE market newcomer has extended its promotional offer for 4G internet until the end of 2016, having initially indicated at its launch in March that the 'unlimited' mobile internet service (with monthly fee of EUR5 plus one-off EUR5 setup fee) would be discontinued on 31 December 2015. Meanwhile, SWAN also announced that certain restrictions which previously applied to the usage of third-party VoIP services (e.g. Skype, Viber) over its LTE network no longer apply. (July 28, 2015) telegeography.com

South Africa



Telkom South Africa has reportedly ended discussions with local mobile network operator MTN South Africa after the Competition Commission said it would not support a proposed deal under which MTN would gain access to Telkom's infrastructure. In February 2015 Telkom disclosed that it was still in discussions with MTN in regards to the potential extension of an existing roaming agreement between the two companies to include bilateral roaming and outsourcing of the operation of its radio access network (RAN) to MTN. Prior to that, in March 2014 Telkom had signed a deal with MTN, under which the latter agreed to take over the deployment and operation of Telkom's RAN, although both companies at the time said they would 'retain and enhance [their] competitive differentiation and flexibility'. Now Telkom and MTN have opted to end negotiations on an expanded agreement as a result of the Competition Commission's opposition to it, with the watchdog having reportedly said that it would ask the Competition Tribunal to block the deal as it was 'likely to substantially prevent or lessen competition in the mobile services market'. Having argued that the proposed deal could limit the growth of Telkom's own mobile business, Commissioner Tembinkosi Bonakele was cited as saying in a statement on the matter: 'I am satisfied with our legal and economic analysis of this proposed merger, and therefore confident that our recommendation to block it is sound. The decision protects competition in telecommunications, a very important market for our



economy now and in the future.' (August 18, 2015) reuters.com

The Independent Communications Authority of South Africa (ICASA) has opened a public consultation on its proposed conditions for the approval of Vodacom's ZAR7 billion (USD566 million) acquisition of domestic operator Neotel. The regulator is planning to impose a requirement that 30% of Neotel's capital be held by Black Economic Empowerment (BEE) shareholders. However, ICASA said it recognises that it 'may not be practicable' for Vodacom and Neotel to comply with the BEE requirement from the onset. In addition, ICASA is considering imposing a condition that at least 25% of Neotel's broadband rollouts be undertaken in underserved and unserved areas, with minimum speeds of at least 5Mbps. The regulator has invited all interested parties to submit their comments on the reasonable period for compliance with the BEE requirement and the reasonable target and timelines for fulfillment of the rollout conditions within 14 days of the publication of the notice in the Government Gazette.

(July 6, 2015) telegeography.com

South Korea



South Korea's government is reportedly considering making another attempt at issuing a fourth mobile operator license in an effort to boost competition in the local market. There are currently three mobile networks, and a number of MVNOs, but attempts to issue a fourth full operator license regularly failed as the bidders failed to meet technical requirements. "If a new business enters the market, it will spark competition, which will lead to a cut in subscription costs," the Ministry of Science, ICT and Future Planning said. "It will also contribute to the emerging segments, such as the Internet of Things and financial technologies." To ensure the latest attempt to issue a license succeeds, the Ministry will be relaxing the previous conditions and may make it easier to roll out the network infrastructure. The ministry said it will receive applications for a fourth mobile operator in August and review the applicants from October to December.

(July 1, 2015) cellular-news.com

Spain



Spain's competition regulator has imposed fines totaling €6.3 million on Telefonica and Yoigo, ruling that their network-sharing relationship is anti-competitive. Telefonica bears the brunt of the ruling and will pay €6 million of the total, while TeliaSonera-owned Yoigo will pay €300,000. The amount of the two fines is based on the telcos' size and on the level of blame they must assume in the case, the Comisión Nacional de Mercados y Competencia (CNMC) announced on Tuesday. The case dates back to a 2008 national roaming agreement between the pair that allows Yoigo to use Telefonica's network for 2G, 3G and 4G services. As it stands, around 50% of Yoigo's traffic uses Telefonica's network, the CNMC said. The main sticking point in that deal is that it does not allow Yoigo to resell that network capacity to third parties, such as mobile virtual network operators (MVNOs). That clause unjustifiably restricts competition, the regulator said. It has decreed that Yoigo should be permitted to resell the network capacity it obtains from Telefonica. A more recent development also came under the CNMC's microscope. In July 2013 the telcos extended their deal to enable Telefonica to use Yoigo's 4G network. The CNMC claims this deal reduces competition in the market and sees no reason why the firms should be able

to use each other's infrastructure in areas in which they both have 4G networks. In addition, the regulator tackled another agreement also signed in July 2013 that allows Yoigo to resell Telefonica's converged fixed-mobile offer. It objects to the fact that Yoigo is only permitted to target existing Telefonica customers, which constitutes a "disproportionate competitive restriction," it said. The telcos have two months to challenge the ruling in Spain's high court, should they so wish. (July 22, 2015) totaltele.com

Taiwan



Ministry of Economic Affairs (MoEA) has reportedly begun trials of a '4G+' (4G/4.5G/5G) experimental mobile network designed to allowing the nation's hardware vendors to test interoperability between their equipment – such as smartphones, small cell and Wi-Fi devices – while also enabling local cellcos to test technologies such as voice-over-LTE (VoLTE). Under the Ministry's sponsorship the experimental infrastructure consists of three divisions, separately operated by the government-sponsored Industrial Technology Research Institute, the Institute for Information Industry, and the government-run National Chung-Shan Institute of Science and Technology. Ericsson, Nokia, Alcatel-Lucent, NEC and Rohde & Schwarz are all understood to be providing testing equipment, while multi-service operators Chunghwa Telecom and Far Eastern Telecommunications will provide service testing platforms for the network. With the infrastructure to be used for trials over 17 different frequency bands, it will reportedly be continually adjusted in terms of testing equipment, frequency bands and technology standards based on the latest developments in mobile technology.

(August 10, 2015) Digitimes

Thailand



Ministry of Economic Affairs (MoEA) has reportedly The National Broadcasting and Telecommunications Commission (NBTC) will start inviting interested companies on August 28 to bid for two telecom licenses on the 1800-megahertz spectrum. They can submit bid documents on September 30. The NBTC board approved the rules for the 1800MHz license auction yesterday. It will call the bids on November 11 and issue the licenses on November 20 and 21. "We expect that the bid winners will be able to start offering 4G service in February next year," NBTC secretary-general Takorn Tantasith said yesterday. As things currently stand, the NBTC will auction a total of 30MHz bandwidth on the 1800MHz spectrum, two licenses for 15MHz each. The minimum starting bid is Bt15.912 billion, equivalent to 80 per cent of the full assessed value. The commission originally planned to auction a total of 25MHz for the two licenses, 12.5MHz each. But CAT Telecom and Total Access Communication (DTAC) jointly agreed to hand over 5MHz of the latter's part of 1,800MHz to the NBTC for auction by September 25. This will enable the NBTC to auction a total of 30MHz. If CAT and DTAC fail to hand over the bandwidth on schedule, the NBTC will go back to the original plan of auctioning two licenses with 12.5MHz each at a minimum starting bid of Bt13.26 billion. If there are only two qualified bidders, the NBTC will raise the minimum to Bt19.89 billion or 100 per cent of the full value in the case of auctioning a license for 15MHz, and to Bt16.575 billion in the case of auctioning a license for 12.5MHz. At least four companies have announced that they will join the bidding: Advanced Info Service, DTAC, True Corp and Jasmine International.



A clause in the original draft of the auction rules for a spectrum-ownership cap has been removed from the final version. It would have capped the total spectrum bandwidth each of the telecom operators could hold after the November auction at 60MHz. Takorn said this provision was removed to avoid the possibility of legal action. (August 21, 2015) nationmultimedia.com

The board of the National Broadcasting and Telecommunications Commission approved in principle its telecom committee's plan to auction all four licenses of the 1,800- and 900-MHz spectra on November 11, which are expected to bring in up-front fees of at least Bt50 billion. NBTC secretary-general Takorn Tantasith said after the board meeting yesterday that the 1,800MHz licenses would be auctioned in the morning of November 11 and the 900MHz licenses in the afternoon. There will be two 900MHz licenses up for bid, each offering 10MHz of bandwidth. The minimum bid for this license is Bt11.26 billion. However, TOT this week informed the NBTC that it wanted to keep 10MHz of this band for its own use after the 900MHz concession it granted to Advanced Info Service (AIS) ends in September. As things currently stand, there will be two licenses on the 1,800MHz spectrum up for grabs, each for 12.5MHz of bandwidth. The minimum bid is Bt11.6 billion per license. CAT Telecom is in the process of transferring an idle 5MHz of bandwidth on 1,800MHz, currently held by Total Access Communication (DTAC), to the NBTC for auction. If the state agency successfully transfers this bandwidth, the NBTC will have 30MHz of 1,800MHz for auction, up from the present 25MHz. It will divide the total bandwidth into two licenses, each with 15MHz bandwidth. The minimum bid will be Bt13.92 billion per license. The NBTC board will inform the Information and Communications Technology Ministry that CAT should hand over the 5MHz without any conditions by September 25, as prospective bidders will submit their proposals on September 30. If CAT fails to do so, the NBTC will go ahead and auction only 25MHz. The ICT Ministry is in the process of amending the CAT concession granted to DTAC to facilitate this spectrum handover. Takorn believes that there will be fierce competition in the auctions and the number of bidders will exceed the number of the available licenses. According to the Frequency Allocation Law, NBTC will transfer all auction up-front fees to the state. He said the new telecom licenses would put Bt169 billion into the economy next year before surging to Bt270 billion in 2017 as a result of investments in cellular transmission networks and content. The NBTC is scheduled to award the licenses in December and expects that all license winners will start to launch their services next February or March. Both spectra can be used to provide third- or fourth-generation wireless broadband service. The NBTC will start an online public hearing tomorrow for the 1,800MHz draft auction rules and around the end of this month for the 900MHz draft auction rules. AIS's shares closed 1.65 per cent higher yesterday at Bt247. DTAC also closed higher at Bt84.75, edging up 0.89 per cent, while True ended down 0.86 per cent at Bt11.50. (July 16, 2015) nationmultimedia.com

The Thai government is looking to change the terms of DTAC's operating license in order to secure an extra 5 MHz of spectrum for its upcoming 4G auction. The country's ICT ministry has set up a working group that would enable DTAC, which holds the spectrum under license from CAT Telecom, to return the unused 5 MHz block without falling foul of the law, the Bangkok Post reported on Wednesday. Earlier this week the newspaper reported that CAT Telecom's board had rejected the

proposal to hand back the spectrum without any form of compensation, noting that such a move would violate the terms of its concession with DTAC. But it appears the government is keen to get its hands on the airwaves. The Bangkok Post said the panel will work on an amendment to the concession and quoted ICT minister Pornchai Rujiprapa as saying that CAT will be ordered to return the spectrum on Wednesday. The plan will be submitted to the cabinet for approval next week. Earlier this year Thailand firmed up plans to auction off 25 MHz of 1800-MHz spectrum in November. However, the government believes that adding the extra 5 MHz will "eliminate the inefficiency and waste inherent in the block sizes," the newspaper said. It added that the government has approved the draft rules for the 1800 MHz auction and is also considering adding 900-MHz spectrum to proceedings, rather than holding a separate auction in December. (July 15 2015) totaltele.com

Thailand's telecoms regulator has approved the return of 5MHz of unused 1.8GHz spectrum to be included in the 4G auction in November, according to a report in the Nation. Following an earlier rejection, the National Broadcasting and Telecommunications Commission (NBTC) said a month ago it was reconsidering DTAC's offer to return the spectrum, but only if it came without conditions and compensation. The spectrum is part of a concession with state-owned CAT Telecom that isn't due to expire until 2018. The return of the 5MHz will increase the amount of 1.8MHz spectrum to be auctioned off to 30MHz, which NBTC plans to split into two blocks of 15MHz. The 5MHz block is estimated to be worth at least THB5 billion (\$148 million). The approval comes just days after the ICT Minister Pornchai Rujiprapa ordered state-owned CAT to drop its proposed agreement with DTAC to return the spectrum, since CAT reportedly was asking for compensation for the return, which he said would delay the auctions. (July 3, 2015) mobileworldlive.com

Ukraine



Ukraine's National Commission for State Regulation of Communications & Informatization (NCCIR or NKRZI) yesterday approved a plan to facilitate and implement 4G LTE mobile services in the country in 2015-2017, authorized by a resolution of the Cabinet of Ministers and designed in accordance with the Presidential Decree of July 21, 2015 ('On ensuring conditions for the introduction of mobile communication of the fourth generation'). The plan is aimed at catching up in technology terms with other countries, as Ukraine did not issue 3G UMTS licenses to its three largest mobile operators until February 2015, whilst technology-neutral usage of spectrum (e.g. 1800MHz) for 4G LTE has not yet been approved.

The action plan's main components listed on the regulator's website include:

- Amending the Law On Radio Frequency Resource of Ukraine and other legislative acts to implement the allocation, distribution and usage of LTE-suitable spectrum on an 'objective, proportionate, timely, transparent and non-discriminatory basis', including the basis for refarming existing frequencies;
- Changes to the national frequency allocation table/usage plan;
- Approval of 'plans and interventions' for releasing the 'first digital dividend' (800MHz) spectrum band as well as the 'second digital dividend' (700MHz) for LTE usage by reallocating bandwidth previously used for broadcasting services; and
- Refarming existing frequencies for LTE under a new technology-neutral licensing regime. (August 19, 2015)



telegeography.com

Ukraine's President signed a decree 'On ensuring conditions for the introduction of mobile communication of the fourth generation'. According to the decree (No. 445/2015) the Cabinet of Ministers, together with the telecoms regulator NCCIR and other involved parties must adopt an action plan for 2015-2017 on the introduction of 4G LTE mobile services in 2017. Note that Ukraine did not issue 3G UMTS licenses to its three largest mobile operators until February 2015, whilst technology-neutral usage of spectrum (e.g. 1800MHz) for 4G LTE has not yet been approved. (July 27, 2015) IT Expert

United Kingdom



The telecoms regulator, OFCOM has fined XS Remarketing, trading as Debt Masters Direct, £150,000 for making silent and abandoned calls. An Ofcom investigation into Debt Masters Direct found that between 9 March 2014 and 28 April 2014, the company made multiple abandoned and silent calls during 37 separate 24-hour periods. An abandoned call is one that ends when you pick up the receiver. Instead of a person on the other end of the line, you may hear a recorded message from the organization trying to call you. A silent call occurs when no recorded message is played at all. They often occur when automated dialing systems used by call centers dial too many numbers and there are not enough call centre agents to handle those calls. The recorded message should include information on who the call has come from and details on how to call back and opt out of future calls. During the investigated period, Debt Masters Direct failed to include details of an appropriate number in the information message that would enable the recipient to call back and decline further calls from the company. The company also made repeat calls to specific numbers within 24 hours when a call had been identified as being picked up by an answer machine. (August 24, 2015) cellular-news.com

Vodafone, 3UK reportedly snap up chip maker's L-band frequencies for more than £100 million. Qualcomm kept quiet about a report that it has raised more than £100 million from the sale of its L-band spectrum in the U.K. to Vodafone and 3. Sources cited in a report by The Times earlier on Friday said that competition for the airwaves was fierce, with the two mobile operators fending off rival bids from EE and O2. At the time of writing, Qualcomm was unavailable for comment. Until Friday, the U.S.-based chip maker's Qualcomm UK Spectrum (QUKS) subsidiary held 40 MHz of L-band spectrum, which falls in the 1452 MHz-1492 MHz range. It paid £8.34 million for the frequencies in 2008 for R&D purposes, not, as some reports suggested, carrying its abortive MediaFLO mobile TV service. Qualcomm confirmed in June that it planned to sell the spectrum, after the European Commission ruled that L-band airwaves could be used for supplemental downlink (SDL) to boost 4G capacity. If The Times report is anything to go by, then Qualcomm has just reaped a substantial windfall from the frequencies. (August 14, 2015) totaltele.com

The mobile networks are seemingly making good use of their current 4G spectrum holdings, with 4G rollouts happening at a rapid pace, but there will soon be even more spectrum up for grabs. OFCOM plans to auction off 2.3GHz and 3.4GHz spectrum which was previously owned by the Ministry of Defense but is no longer being used. That's high frequency spectrum which is

ideal for high capacities and greater speeds, but is unlikely to speed up the rollout of 4G as it's less suited to achieving wider geographical coverage than low frequency spectrum. As such OFCOM won't be placing any coverage obligations on the spectrum. Exactly when and how the spectrum will be sold off is yet to be finalized. In fact there's not even any guarantee it will go to the mobile industry, though they're likely to be the most interested parties. OFCOM is asking potential bidders for their views on how best to proceed with the auction, but is tentatively suggesting that the bulk of the spectrum be auctioned off later in 2015 or early in 2016 with the remainder held back to be awarded at a later date. OFCOM has also highlighted that its objective is to award the frequencies in such a way that will allow consumers to enjoy greater access to high-capacity mobile internet without any unnecessary delays, so it certainly sounds like the auction will happen sooner rather than later. When it is auctioned off licenses for the 2.3GHz and 3.4GHz bands will be issued for an indefinite period, but with an initial term of 20 years, after which time license fees may be payable. The upshot of all this is that soon the mobile networks should have more high frequency spectrum to play with, which should allow them to deliver faster 4G networks which fare well even under heavy use and that can only be good news. (July 27, 2015) 4g.co.uk

U.K. regulator says last month's spectrum sale will enable it to estimate the market value of 900 MHz and 1800 MHz frequencies. OFCOM announced that it will take the results of the recently concluded German spectrum auction into account when setting the annual license fees U.K. operators must pay for frequencies in the 900 MHz and 1800 MHz bands. "OFCom considers that this auction provides relevant evidence for the purposes of estimating the market value of the 900 MHz and 1800 MHz licenses in the U.K.," the regulator said, as it published an updated version of its ongoing consultation into mobile license fees. The German auction drew to a close in mid-June after 181 rounds of bidding. The country raised €5.08 billion from the sale of spectrum in the 700 MHz, 900 MHz, 1500 MHz and 1800 MHz bands to Deutsche Telekom, Vodafone and Telefonica. OFCOM has analyzed the results of the German auction and its possible implications for the value of 900-MHz and 1800-MHz spectrum in the U.K., factoring in variables such as spectrum caps and the likelihood of strategic bidding. Amongst other things, it noted that the €1.3 billion raised from the sale of 900 MHz spectrum in Germany could be an understatement of its market value, although it noted that it could not be sure of the likelihood or scale of such a risk. When it came to the 1800 MHz band, the regulator said it could see no evidence to suggest whether its value was over or under-stated in Germany. The sale of 1800-MHz airwaves in Germany raised €2.4 billion. As directed by the government following the U.K.'s 4G auction, OFCOM is in the process of revising the annual license fees, or ALFs, that holder of 900-MHz and 1800-MHz spectrum are required to pay. It has published a series on consultations on the subject, the first one being in October 2013 and the most recent, before this new one, in February 2015. As part of the process it is carrying out an international benchmark analysis, looking at the results of spectrum auctions in Europe since the start of 2010 that included at least one of the ALF bands. Stakeholders will be able to comment on OFCOM's initial analysis of the German auction until August 7. (July 8, 2015) totaltele.com



United States



The U.S. Federal Communications Commission (FCC) plans to kick off next year's incentive auction by March 29, and to that end it has outlined the next steps in the process. In early autumn, the watchdog will publish instructions about how to apply, as well as a detailed auction timetable and the opening bid prices for the reverse auction, which will see willing broadcasters sell their 600-MHz spectrum back to the FCC. At the same time, the FCC also plans to publish the opening price for the forward auction, which will offer the 600-MHz frequencies for sale to mobile operators. Once opening prices for both auctions have been established, the FCC will start accepting applications. "The application windows will close before the end of the year. After the application deadline, FCC staff will review the applications for completeness and accuracy," explained Gary Epstein and Howard Symons, chairman and vice chairman respectively of the FCC's incentive auction task force, in a blog post on Thursday. The aim of the auction is to reallocate a chunk of the 600 MHz band for mobile broadband and 'repack' broadcasters into other frequencies. The FCC hoped to complete the process by the end of 2014, but the complexity of designing the auction rules led to its postponement in late 2013. Then in August last year, the National Association of Broadcasters (NAB) filed a lawsuit claiming that the auction would leave some broadcasters short-changed by curtailing their coverage areas, leading to a loss in viewership. The incentive auction's complexity coupled with the lawsuit prompted the FCC in October 2014 to postpone the sell-off until early 2016. To help participants make sense of the auction, the FCC has scheduled a number of webinars and workshops that will explain the process. "We recognize that this is a great deal of information, especially for entities that have not participated in an FCC auction before. Staff will therefore be offering three types of training this fall, even before applications are due: workshops, webinars and an interactive on-line tutorial," said Epstein and Symons. "We look forward to working with you to give you the information you need to make the incentive auction a success," they said. (August 21, 2015) totaltele.com

The US Federal Communications Commission (FCC) has issued new rules governing unlicensed fixed and mobile white space devices in the 600MHz frequency band. Widely seen as being of great use in IoT services, these devices will operate in the so-called "white space" spectrum between TV bands. The new rules are designed to permit more efficient operation of fixed and personal/portable white space devices in these bands without increasing the risk of interference to existing broadcast services and especially wireless microphones. They also call on enhancements to the white space database (the key element in coordinating usage between unlicensed devices by dynamically allocating spectrum), including an expansion of the location and frequency information and an update to database procedures. The FCC also reaffirmed its decision to establish a market-based spectrum reserve of up to 30MHz of 600MHz spectrum in next year's incentive auction – due to start in March – in order to promote competition in the wireless marketplace. Non-nationwide providers as well as nationwide providers who currently hold less than one-third of available high-quality low-band spectrum in a given license area will be eligible to use this new reserve. It voted against a petition from T-Mobile that called for a reserve of 40MHz for

qualified licensees (such as itself, and basically anyone other than AT&T and Verizon). The reserve is designed to protect against excessive concentration in holdings of low-band spectrum, while also promoting competition by bidders for both reserved and unreserved spectrum. "We remain concerned that the FCC's failure to increase the size of the reserve and to prevent anti-competitive bidding practices will undermine the Commission's efforts to increase auction participation and competition," said Phillip Berenbroick, Counsel for Government Affairs at Public Knowledge. At last week's Senate Commerce Committee hearing on "Wireless Broadband and the Future of Spectrum Policy," FCC Commissioner Jessica Rosenworcel said the two most important areas were 5G-friendly mmW spectrum "all the way up to 24GHz and perhaps as far as 90GHz", and WiFi. "The future of spectrum policy requires not just more licensed spectrum, but also more unlicensed spectrum," said Commissioner Rosenworcel. "Unlicensed spectrum, like WiFi, democratizes Internet access, encourages permissionless innovation, and contributes \$140bn in economic activity annually. So in any legislative effort to increase the licensed spectrum pipeline, we need a cut for unlicensed – call it the Wi-Fi dividend." Meanwhile, the FCC has launched an inquiry seeking comment on whether consumer access to both mobile and fixed broadband should now be the standard for its annual broadband report – rather than just fixed access. The FCC is charged with producing an annual assessment of whether broadband is being deployed to all Americans on a reasonable and timely basis. Its 2015 report, released in February, concluded that deployment was not reasonable and timely, and that nearly 55 million Americans did not have access to broadband capable of delivering high-quality voice, data and video services. If mobile broadband is added to the assessment, the FCC wants to know what speed of service should serve as the benchmark for assessing availability. The FCC is also proposing to consider the availability of fixed satellite broadband. (August 7, 2015) telecomtv.com

The Federal Communications Commission is looking at both low-band and high-band spectrum resources in its attempt to bring more capacity to a domestic wireless market eager to push beyond "4G" toward proposed "5G" network technologies. In a blog post, FCC Chairman Tom Wheeler said the government agency is looking to roll out a Notice of Proposed Rulemaking later this year focused on the use of "higher-frequency bands for mobile" services. Wheeler said the NPRM will look to provide a flexible regulatory framework designed to allow "maximum use of higher-frequency bands by a wide variety of providers, whether the service they provide is mobile, fixed or satellite." "I anticipate that we will explore a range of regulatory strategies depending on the specifics of each proposed higher frequency band, including licensed, unlicensed and hybrid shared models," Wheeler wrote. In support of that initiative, the FCC will look to engage the international community at the upcoming 2015 World Radiocommunication Conference to harmonize spectrum allocations in select frequency bands above 6 GHz. The bands to be proposed by the U.S. for eventual inclusion at the WRC event in 2019 include the 27.5 GHz-29.5 GHz bands; 37 GHz-40.5 GHz bands; 47.2 GHz-50.2 GHz bands; 50.4 GHz-52.6 GHz bands; and the 59.3 GHz-71 GHz bands. The FCC last year began looking at spectrum bands above 24 GHz, or the so-called "millimeter wave" bands, to support mobile data services. "Studying the entire spectrum above 6 GHz would be unfocused and would be resource intensive while identifying too few bands for study risks the possibility that none becomes viable. Accordingly, we need to identify enough bands likely to yield a successful outcome," Wheeler explained. "We will consider these bands, or a subset of



the bands, in further detail in an upcoming NPRM, with the goal of maximum use of higher-frequency bands in the United States by a wide variety of providers." The FCC earlier this year moved to free up 150 megahertz of spectrum in the 3.5 GHz band for use by commercial operators for small cell deployments, with some also set aside for unlicensed uses. While high-band spectrum is expected to be a focus for the WRC event, Wheeler touted the FCC's upcoming 600 MHz incentive auction as key to providing low-band spectrum for next-generation network services. "In much the same way that 700 MHz paved the way for America's world-leading deployment of 4G, so could 600 MHz accelerate U.S. deployment of 5G," Wheeler said. The 600 MHz incentive auction is currently scheduled to begin during the first quarter of next year. (August 5, 2015) rcrwireless.com

The Federal Communications Commission (FCC) has reached a settlement with two telecom companies in connection with allegations the telecom companies violated the law regarding the privacy of phone customers' personal information. In October 2014 the FCC initiated its first data security case against TerraCom, Inc. and YourTel America, Inc. Originally, the FCC had proposed a \$10 million fine, which at the time made it the largest privacy action in the FCC's history. Ultimately, the FCC and the telecom companies reached agreement on a \$3.5 million settlement. According to the consent decree, the companies allegedly breached the personal information of over 300,000 consumers through lax security practices, despite the privacy policies for the two companies stating that they had in place technology and security features to safeguard the privacy of your customer specific information from unauthorized access or improper use. In addition to the \$3.5 million settlement, the companies are also required to provide notification to all customers whose information was subject to the breach, provide credit monitoring to each individual, and improve privacy and data security by taking a number of additional steps. Those steps include, by way of example:

- conducting a risk assessment;
- implementing a written information security program;
- implementing a data breach response plan; and
- providing training to employees regarding privacy and security.

While the settlement is significantly lower than the initial proposed fine, this matter demonstrates the significant liability associated with the failure to adequately safeguard information and/or to implement safeguards consistent with a company's statements regarding same.

(July 16, 2015) natlawreview.com

Zambia



Zambia Information and Communications Technology Authority (ZICTA) has recorded substantial growth in mobile service providers' subscriber base from 50,000 in 2000 to 10.8 million to date. The authority also says the liberalization of the international gateway has fostered competition in the information and communications technology (ICT) sector. ZICTA director support services Mofya Chisala said the ICT sector reform is one area

where there has been great improvement. "Just in 2000, we only had 50,000 mobile subscribers but this time, we are talking about 10.8 million and so there is that growth representing mobile penetration of 69 percent," Mr. Chisala told Kenyan President Uhuru Kenyatta and President Lungu when they toured the ZICTA pavilion on Saturday at the just ended 51st Zambia International Trade Fair. He said competition is increasing with voice and short messaging system tariffs continuing to drop as Government has also emphasized that tariffs need to reduce to benefit consumers. Meanwhile, Mr. Chisala also said the ICT sector is the backbone of business performance and socio-economic development. "We are very large in regulation and Government has gone big in ensuring that we have processes of ease of doing business. The licensing reform is another area where we have done very well," he said. He cited the liberalization of the international gateway for the three mobile service providers who now have their own licenses for the international gateway. He said the development has fostered competition in the ICT sector. This year's trade fair, which took place from July 1 to 7, was held under the theme 'Prosperity through Business Reforms'. (July 8, 2015) daily-mail.co.zm

The Zambia Information and Communications Authority (ZICTA) says it will start confiscating Information and Communication Technology (ICT) equipment that is not registered with them in order to monitor the flow of information. ZICTA public relations manager Ngabo Nankonde said this would stop people from abusing ICT equipment such as cellular and telephones, laptops, tablets and many others. "We have confiscated ICT equipment before and we are starting to confiscate more equipment from businesses that have not registered with us," she said Ms. Nankonde said this would also help avoid sub standard products on the market. ZICTA was setting up a hyper-approval (laboratory) at University of Zambia (UNZA) at the cost of K15 million to ensure that ICT equipment imported were registered with them. Ms. Nankonde, however, urged the public not to buy any ICT equipment that is not registered with ZICTA. Meanwhile, ZICTA has established over 100 clubs in 25 Primary schools and 75 in Secondary schools across the country to ensure that young people accessed ICT programs. This is aimed at ensuring that the young people embrace careers in ICT at a tender age. Ms. Nankonde said young girls should take interest and use ICT productively for their benefit and avoid passing time on the internet. She said both boys and girls had equal opportunity but the girl child had not utilized the ICT as the boy child has. (July 2, 2015) times.co.zm

Javaid Akhtar Malik

Regulatory Affairs

SAMENA Telecommunications Council

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▼ WHOLESALE NEWS

WHOLESALE UPDATES

Chorus blames drop in profits on regulator's wholesale pricing decision

New Zealand telecoms network operator Chorus has blamed regulatory pricing decisions for falling profits, as net income for its full year to 30 June 2015 fell to NZD91 million (USD60 million), down 39% from NZD148 million the year before. EBITDA dropped 7% to NZD602 million, while revenues stood at NZD1.01 billion, down 5% from NZD1.06 billion in fiscal 2013/14. The wholesale operator is unhappy with the Commerce Commission's move to reduce the prices Chorus can charge for leasing its infrastructure to retail service providers such as Spark and Vodafone. A statement from the company said: 'Chorus' financial result for FY15 was impacted substantially by the requirement to implement initial regulatory pricing decisions based on international benchmarking ... This regulatory pricing remains under review and the ongoing uncertainty has overshadowed positive increases in fixed line and broadband connections.' The firm added: 'Chorus continues to believe that the draft pricing significantly undervalues the true cost of network investment in New Zealand.' Chorus said that the number of broadband subscribers on its networks rose 4% in the twelve months to end-June 2015 to 1.21 million, while the fixed line telephony user base increased

marginally from 1.78 million to 1.79 million. Connections to its fibre networks more than doubled from 42,000 in mid-2014 to 88,000 a year later. Chorus says its deployments under the government-backed Ultra-Fast Broadband (UFB) scheme are now 44% complete

Namibia, Botswana, Zimbabwe and Zambia Agree to Lower Roaming Charges

Mobile operators in Namibia, Botswana, Zambia and Zimbabwe recently agreed to reduce roaming tariffs as part of a pilot roaming project, which will commence among all operators in the four countries by September 1. All mobile operators of the four member states participating in the pilot project will commence making the necessary arrangements to implement a glide path, as agreed upon at a recent meeting hosted by the Communications Regulatory Authority of Namibia (CRAN). The arrangements include amending their bi-lateral roaming agreements, in particular the inter operator tariffs for all roaming services. The participating member states also agreed that wholesale and retail tariffs will be reduced annually, in line with a glide path as approved by the Southern African Development Community (SADC) information and communication



technology (ICT) ministers. Participants at the meeting on August 5 and 6 resolved that operators will not be forced to go into reduced tariff agreements with operators in countries not participating in the pilot project. However, a statement from CRAN noted that other member states wishing to participate in the project prior to October 1 are welcome to participate, and mobile operators should engage with their respective mobile roaming partners to ensure their participation. Members also agreed that the project on the harmonized cost study for wholesale tariffs as adopted by the SADC ICT ministers at their meeting in Walvis Bay will continue. It was also agreed that the quality of services is very important and therefore roaming customers should experience the same quality of service as national customers when roaming. According to CRAN, a recommendation will be made to the Communications Regulators' Association of Southern Africa (CRASA) that a regional clearing house be established to ensure lower costs for roaming in the region. CRAN also noted that the utilization of existing direct links between member states should be addressed at policy level to ensure further reduction of costs and to avoid routing of regional traffic via international carriers or agents. "Regional mobile telephony roaming plays a strategic role in accelerating regional integration and economic development in the SADC region. Thus this meeting aimed at fast tracking the implementation of the approved SADC roadmap in line with the decision of the ICT Ministers on SADC home and away roaming, and to initiate the pilot project that will see the four countries enter into a bilateral agreement on the basis pertaining to the SADC home and away roaming project," said Mbeuta Ua-Ndjarakana, Permanent Secretary of the Ministry of Information and Communication Technology, who chaired the meeting.

Telecom Italia weighs reorganization of business unit - Bloomberg
Italy's Telecom Italia SpA is considering merging its OpenAccess business unit that leases its landline network to rivals with its wholesale business to avoid antitrust charges of as much as 4 billion euros (\$4.35 billion), Bloomberg reported on Tuesday. The reorganization plan will be reviewed by the board on Thursday, Bloomberg reported, citing people familiar with the matter. Under the plan, Telecom

Italia would have to buy wholesale capacity from OpenAccess, just as its competitors do, according to the Bloomberg report. The Milan-based company has made provisions in its second-quarter earnings for antitrust charges, Bloomberg said. After a complaint by Telecom Italia's rivals, including Vodafone and FastWeb, Italy's antitrust authority said the company had hindered access to the country's fixed-line telephone network from 2009 to 2011. According to the Bloomberg report, Vodafone is seeking more than 1 billion euros in damages from Telecom Italia, claiming it is abusing its dominant position. Other claimants include Fastweb, which is seeking 1.7 billion euros. In total, claims against Telecom Italia amount to about 4 billion euros, according to the country's competition authority. Vodafone declined to comment. FastWeb and Italy's antitrust authority could not be immediately reached for comment outside regular business hours.

Regulators to Cap Roaming Charges in Southern Africa

The telecoms regulators of four Southern African countries have announced plans to reduce the roaming charges permitted by their mobile networks. The Communications Regulatory Authority of Namibia (CRAN), which is overseeing the project said the new tariffs will come into effect as soon as next month, and will also see further cuts over the next few years. The countries in the agreement are Botswana, Namibia, Zambia and Zimbabwe. In addition, a recommendation is to be made to the communications Regulators' Association of Southern Africa (CRASA) for a regional clearing house to be established. That could lead to more countries joining the pact later.

BSNL's new combo roaming

An official statement said the BSNL, which has already offered free incoming calls to all 2G / 3G GSM mobile customers in roaming, now offers combo roaming 'STV 93' to its 2G / 3G prepaid GSM mobile customers for outgoing calls in roaming. The maximum retail price of the roaming 'STV 93' is Rs.93 inclusive of service tax. The new roaming 'STV 93' offers free outgoing voice calls to any network in roaming for 120 minutes and 40 free

SMS to any network with the validity of 30 days. This STV can also be activated by sending SMS keyword 'STV ROAM93' to 123 and Rs. 81.58 only will be deducted. There is no change in other existing plans and conditions. The data plan with monthly fixed charge of Rs.140 (Service Tax extra) has been revised to Rs. 170 (service tax extra) with 1 GB free usage from August 1. The data charge after the free usage is 1 paisa / 10KB. The annual advance payment option for this data plan has also been revised to Rs. 1915 (service tax extra). There is no change in other existing plans and conditions.

EU roaming charges to be abolished in 2017

The European Union said it had struck a deal to abolish mobile phone roaming charges in 2017, ending fees loathed by millions of holidaymakers and business travelers across Europe. The agreement will end the frustration of EU citizens on holiday or business who face steep charges for using their phones for calls and Internet browsing when in the bloc but outside their home country. Coming into force on June 15, 2017, the deal means "you can use your mobile device when travelling in the EU paying the same prices as at home," the European Commission said in a statement. "If you pay for a monthly volume of minutes, SMS and data in your country, any voice call, SMS and data session you make while travelling abroad in the EU will be deducted from that as if you were at home, with no extra charges," it added. The deal was reached following wider discussions stretching back to 2013 in overnight talks between the Latvian presidency of the EU and the European Parliament. It still needs formal approval by the bloc's parliament and 28 governments and was described as "provisional". "This is the end of a long process and we're delighted we managed to produce a result that will mean concrete improvement for citizens in the single market," European Commission spokesman Margaritis Schinas told reporters at a briefing in Brussels. British Prime Minister David Cameron, who is in the process of negotiating EU reforms ahead of a referendum on membership of the bloc, described the move as "fantastic news". But some analysts questioned whether the major structural changes to the industry necessary before roaming charges are actually abolished could be brought in within two years. "I'm not convinced that 2017 is going to be the final date," said Dario



Talmesio, Europe practice leader at telecoms, media and IT research group Ovum. "The devil is in the detail about how to go about it. There's a lot that needs to be clarified." Before the full deal comes into effect, data roaming charges will be slashed from April 2016 to 0.05 euros per minute for calls, 0.02 euros per SMS and 0.05 per megabyte of data. Under current EU rules, the cap stands at 0.19 euros per minute for calls, 0.06 euros per SMS and 0.20 euros per megabyte of data. Providers would still be allowed to apply a "fair use policy" to prevent "abusive" use of roaming, the European Council said. Talmesio said that the detail of this would be key to determining how and when the policy can be implemented. Bert Van Roosebeke, a political analyst from the Centre for European Policy think tank said it was "possible that domestic prices rise" as telecoms companies respond to the ruling. A principle of "net neutrality" is also being introduced under which operators will be obliged to treat all traffic equally when providing Internet access services and not impose any blocking or "throttling" -- slowing down Internet traffic. That is designed to eliminate the paid prioritization of traffic, subject to limited exemptions such as countering cyber-attacks. Providers not respecting the rules face "significant pecuniary and administrative sanctions," the Commission said. The EU wants to complete an overhaul of EU telecoms rules in 2016.

CRTC mandates wholesale fiber broadband access

The Canadian Radio-television and Telecommunications Commission (CRTC) announced new measures in the wholesale fixed broadband market, including a ruling forcing the country's largest internet providers to open up their high speed fiber-based access networks to smaller rivals. The regulator said the measures are to foster competition and provide Canadians with more choice and innovative services at reasonable prices. Following an extensive review, the CRTC found that: 'the large incumbent companies [including Bell Canada/Bell Aliant, Rogers Communications, Shaw Communications, Videotron and Telus Communications] continue to possess market power in the provision of wholesale high speed access services' and it is therefore requiring that they make their new-generation services such as fiber-to-the-premises (FTTP) available to competitors. The summary

continued: 'The demand by Canadians for higher speed services will only increase in the coming years ... Large incumbent companies will now have to make their fibred facilities available to their competitors. This measure will ensure that Canadians have more choice for high speed Internet services and are able to fully leverage the benefits of the broadband home or business.' Another aspect of the CRTC's decision involves scrapping the currently mandated 'aggregated' wholesale high speed access (HSA), which has enabled smaller competitors to lease a package of both the access facilities they need to connect to customer locations, and transport facilities, from larger incumbents, without requiring the smaller players to invest substantially in their networks. Under the new policy decision, the CRTC stated that: 'The large incumbent companies will continue to be required to provide access to wholesale high speed access services throughout their region and transition this access to a disaggregated architecture. The provision of wholesale high speed access services on a disaggregated basis will be implemented in phases across Canada, starting with Ontario and Quebec.' The regulator indicated that it will take up to three years to phase out aggregated access. Furthermore, under the policy decision (Telecom Regulatory Policy CRTC 2015-326), copper unbundled local loops (ULLs), which in Canada the CRTC considers 'a legacy service used primarily to support retail competition for local phone services and lower-speed Internet access', will no longer be mandated and will be phased out. The regulator also confirmed that 'Ethernet and high speed competitor digital network services', which are primarily used to support retail competition in the business data services market, will remain forborne from price regulation and not mandated.

Currently mandated wholesale services (ahead of the decision):

- ULLs
- Incumbent local exchange carriers' (ILECs') aggregated wholesale HSA service
- Cablecos' aggregated wholesale HSA service (also known as TPIA) service
- Interconnection services
- Public good' services
- Wholesale services mandated as a result of this decision:
- ILEC and cableco disaggregated wholesale HSA services
- FTTP access facilities
- Interconnection services

- Public good services
- Wholesale services that are no longer mandated or that remain forborne from price regulation:
- ULLs
- Ethernet access and transport services
- High speed CDN access and transport services.

The CRTC noted that its next steps include hammering out the details for implementing the wholesale HSA/transport service disaggregation, and setting the costs for wholesale fiber access.

Syniverse Establishes LTE Roaming for Saudi Telecom Company

Syniverse has announced an agreement to enable Saudi Telecom Company (STC) to launch LTE roaming via its IPX Network Solution. The Syniverse IPX provides a connection that currently serves more than 1,000 LTE roaming routes with reach to more than 230 operators in 44 countries. "Through a single connection to Syniverse's expansive IPX network, we are able to deliver LTE roaming while also future-proofing our network to support advanced technologies like VoLTE and to increase bandwidth as LTE volumes continue to rapidly grow." said Eng. Walid Al-Wabel, General Manager of STC's Wholesale Operations Management. In addition to leveraging Syniverse's data and financial clearing, IOT Discount Management and Near Real-Time Roaming Data Exchange, STC uses the Gain Management suite to facilitate international roaming agreement negotiations and to perform TADIG testing to help expand the operator's voice, data, CAMEL and LTE footprint.

Travelers spend billions each year on WiFi and roaming

The Business Traveler Connectivity Cost Index shows that those of us needing to use smartphones, tablets and PCs while on the move are collectively wasting US\$1.33 billion (RM5.04 billion) a year in charges. The report, compiled by Rethink Technology Research and iPass, focuses solely on North American and European business travelers and estimates that an American travelling internationally on business is racking up between US\$828 and US\$1,780 a month in cellular roaming charges. For Europeans travelling internationally, the monthly costs could be as high



as US\$2,130 a month. The average business traveler now consumes 4.5GB of data a month. "The amount of mobile data consumed by business is growing rapidly, as more employees adopt the use of cloud-based mobile applications of all kinds and look to replicate enterprise working environments on their smartphones, tablets, and laptops," said Gary Griffiths, iPass president and CEO. That's also why free WiFi is a problem. As well as being unsecure, it's often too slow to allow anyone, holidaymakers or business travellers alike, to do much more than check emails. "Around 50% of hotels who say they offer free WiFi charge a premium for a service fast enough to actually work on," said Peter White, principal analyst and founder, Rethink Technology Research. The report calculates that if travelers all used global roaming subscription services, as much as US\$1.33 billion could be saved annually. The Business Traveler Connectivity Cost Index shows that those of us needing to use smartphones, tablets and PCs while on the move are collectively wasting US\$1.33 billion (RM5.04 billion) a year in charges. The report, compiled by Rethink Technology Research and iPass, focuses solely on North American and European business travelers and estimates that an American travelling internationally on business is racking up between US\$828 and US\$1,780 a month in cellular roaming charges. For Europeans travelling internationally, the monthly costs could be as high as US\$2,130 a month. The average business traveler now consumes 4.5GB of data a month. "The amount of mobile data consumed by business is growing rapidly, as more employees adopt the use of cloud-based mobile applications of all kinds and look to replicate enterprise working environments on their smartphones, tablets, and laptops," said Gary Griffiths, iPass president and CEO. That's also why free WiFi is a problem. As well as being unsecure, it's often too slow to allow anyone, holidaymakers or business travelers alike, to do much more than check emails. "Around 50% of hotels who say they offer free WiFi charge a premium for a service fast enough to actually work on," said Peter White, principal analyst and founder, Rethink Technology Research. The report calculates that if travelers all used global roaming subscription services, as much as US\$1.33 billion could be saved annually..

T-Mobile gets more disruptive, ends North American roaming charges

Consumers who travel in foreign countries often get a nasty surprise when they return home – a cell phone bill of \$1,000 or more. That's because roaming charges between countries are astronomical. While most carriers now offer a reduced-price international package, consumers who don't want to get blindsided often just turn off their phones when they travel or just leave them at home. Gradually, those foreign roaming charges seem to be falling by the wayside, just as domestic roaming charges did in the 1990s. T-Mobile says it is taking steps to make roaming charges a thing of the past for consumers traveling in North America. The company's newly-announced Simple Choice plan extends coverage and calling across the U.S., Mexico and Canada at no extra charge. Customers on the Simple Choice plan will be able to call both land lines and mobile phones and receive 4G LTE data across all 3 countries at no additional cost. T-Mobile says its plan will cover a lot of travel bases since its research shows that in 2014, 35% of all international calls and 55% of all international travel from the U.S. was to Mexico or Canada. The announcement might be viewed as another attempt by T-Mobile to be a disruptive force in mobile communications. Its commercials directly attack competitors and T-Mobile was the first to openly poach its rivals' customers, offering to pay early termination fees for customers who switched. In keeping with that strategy now T-Mobile accuses its rivals of raking in nearly \$10 billion in global roaming charges at over 90% margins last year, suggesting consumers are getting gouged. "After spending billions buying up Mexican telecoms, AT&T's CEO is promising 'the first seamless network covering Mexico and the U.S.,' something 'unique' that 'nobody else will be able to do for the consumer.' So much for that. They won't be the first. And they won't offer Canada for free," said John Legere, president and CEO of T-Mobile. Referring to his company as the "un-carrier," Legere says T-Mobile is partnering with Canadian and Mexican providers to get rid of roaming charges. He says the new plan takes direct aim at the carrier practice of "jacking up the cost and complexity for customers the moment

you set foot over a border." T-Mobile claims that when you call or travel in Mexico, you have to make your way through several international calling and roaming packages that can ratchet up your monthly rate. By contrast, it says its new plan makes calling or traveling in Mexico or Canada just like being at home. The new Simple Choice plan goes into effect July 15. Then, the company says, it's just one big happy continent. "Zero ridiculous calling rates, zero jacked-up data rates, zero hoops to jump through," T-Mobile said in a press release. "And, as always, you get all the other Un-carrier benefits like Music Freedom and Wi-Fi calling and texting. You'll be even able to tap into your Data Stash in Mexico & Canada starting later this year." The service is automatically extended to every new Simple Choice customer. Existing customers may switch to the new plan for free.

T-Mobile widens roaming as it becomes the third biggest carrier

Sprint CEO Marcelo Claure recently said he was tired of T-Mobile's "Uncarrier bullshit," but that BS has almost certainly helped it displace Sprint as the nation's third-largest carrier. T-Mobile's preliminary earnings report shows that it added 2.1 million new customers this quarter, giving it 58.9 million in total. As of May, Sprint had 57.1 million customers after adding 1.2 million in the previous quarter. Depending on Sprint's performance over the past few months, T-Mobile might sprint ahead of it by next quarter. As if that isn't enough, Legere also announced the company's latest Uncarrier move, and it's sure to make Claure "mad, bro." T-Mobile is extending its Simple Choice plan to include calling in Canada and Mexico as part of what it's calling "Mobile without Borders." Simple Choice already allows users to text and use data in well over 100 countries, but the addition of calling to the plan means that you'll be able to use your phone as if you were at home from anywhere in the continent. If that sounds a little familiar, that's because AT&T recently announced it plans to create a "North American Service Area" after the purchase of Mexican carrier Nextel goes through. Unfortunately, AT&T's North America forgot about Canada, meaning T-Mobile's roaming deal seemingly tops AT&T's before it's even launched.



Roaming charge and net neutrality rules set for autumn completion

Reforms to the roaming charges that mobile network operators (MNOs) can charge in the EU for the use of data services abroad and new 'net neutrality' rules are set to be finalised this autumn, EU law makers have confirmed. The Council of Ministers said that its Permanent Representatives Committee (COREPER) has given its backing to an informal agreement on the reforms that was struck between the Council and European Parliament last week. After "technical finalisation", the text (47-page / 460KB PDF) will be "formally approved" by both the Council and the Parliament, with the Council vote expected this autumn, it said. The reforms, once introduced, would mean that MNOs will be banned from imposing roaming charges from 15 June 2017 except where consumers exceed a "fair use" cap on the use of mobile data services abroad. The net neutrality rules would, from 30 April 2016, lay out strict conditions on when internet service providers (ISPs) could block or throttle the delivery of content requested by users of their network. It would prevent "paid prioritisation" of content delivery online. Andrus Ansip, EU digital commissioner, said: "This is vital for online users and businesses. It makes sure that Europeans have access to the online content and services they want, without any discrimination or interference - like blocking or slowing down - by internet access providers. Many people have complained about these practices, particularly with video streaming and internet telephony." "Until now, there have been no clear EU-wide rules on net neutrality, which leaves most people with no legal protection of their right to access the open internet. Some EU countries have national laws on net neutrality. Others do not. If there are no rules, we are left with a messy situation where 'anything goes'. Different national rules cause the [digital single market] to become splintered, which is why it is so important that we now have now a common set of rules in the EU," he said. Under the planned new net neutrality regime, ISPs will be able to agree deals to deliver services of enhanced speed and quality with content providers in some cases, provided that it has no impact on "the open internet". "[The rules] also address specialised services that need a higher transmission quality than that guaranteed for everyone,"

Ansip said. "Take a healthcare service like telesurgery, which has to be extremely fast and precise to work properly and safely. National regulators will allow these specialised and innovative services under strict conditions: above all, they should not harm the quality of the open internet (there should be enough capacity) and higher quality should be necessary for them."

Roaming charges to drop by October – ICT minister

Ministers of Postal, Telecommunications and ICT in the Southern Africa region are working towards reduction of data roaming charges within the SADC region. ICT Minister Dumsani Ndlangamandla joined other SADC ICT ministers in a meeting held in Windhoek, Namibia, to discuss among other things the issue of data roaming charges. Speaking on national radio on Monday morning, the minister said the meeting had a number of items on its agenda but top of the list was issues of data roaming tariffs and digital migration. On data roaming, the minister said last year, ministers met in Malawi and an agreement was reached to the effect that the roaming tariffs should be reduced this year. He said guidelines were drafted but could not be implemented due to lack of regulations. He said now the regulations were available and would start working in October. He said all countries were expected to comply and that regulators in the industry will be expected to ensure that service providers complied with the regulations. The 'Home and Away Roaming' seeks to reduce the roaming tariffs as it has been noted that they are too high. The SADC secretariat said the strategic role of regional mobile telephony roaming has been recognized by SADC ministers responsible for Postal, Telecommunications and ICT. Acknowledgement has been made in regard to that roaming facilitates regional trade and travel and also enables regional integration. The ministers felt that currently, the challenge being faced by SADC is unaffordable International Mobile Roaming (IMR) tariff. With recognition that it is a challenge for an originating country to regulate the roaming tariff of a visited country, SADC decided to intervene at the regional level and seeks to regulate the roaming services.

This would allow for better consumer welfare as well accelerate regional integration thereby facilitating the social and economic development of the Region. The SADC Home and Away Roaming Project is being implemented in three (3) phases, the first being Liberalization, Transparency, Information and Data Collection, the second being 'Roam Like at Home (RLAH)' and the third being 'Cost-based Price Regulation.' On digital migration, ministers agreed that by December 2016 all member states should have completed the migration process and switch off from analogue to digital broadcasting.

Ministry looks into canceling roaming fees

The Ministry of Industry and Information Technology (MIIT) is researching the possibility of canceling roaming fees, which could benefit at least 600 million Chinese users. Wen Ku, a spokesman for the ministry, revealed the latest development at a press conference. Deng Zhongliang, a professor at the Beijing University of Posts and Telecommunications, told China News Service that there is no technical difficulty in canceling roaming fees. Roaming involves very low additional costs for telecom companies when a cell phone user travels within China. Deng said the majority of costs for the telecom industry are from infrastructure construction. With the improvement of such facilities, it is feasible to cancel domestic roaming fees. Deng attributed the delayed plan to cancel roaming fees to disagreements in management models and issues related to settlement. China News Service has found that all fourth-generation (4G) mobile packages offered by China's three major telecom carriers do not charge domestic inter-city roaming fees, while some of the 3G services and most 2G services still charge roaming fees. At the end of May, China had more than 600 million 2G users. China Mobile, the nation's largest telecom carrier by subscriber number, said it will stick to its announced timetable in regards to upping access speeds and reducing service fees. The company plans to cut data service charges by at least 35 percent by the end of the year. Also at Monday's press conference, Zhang Feng, chief engineer at the MIIT, said the ministry will make sure telecom companies honor their promises to speed up Internet access and cut service charges. The ministry



aims to reduce fees for both mobile data and fixed broadband services by 30 percent year-on-year by the end of 2015, Deng said. Investment in telecom facilities construction is estimated to reach 435 billion yuan (\$70.06 billion) this year, up 10 percent from last year, it was added. The move will help lower costs for Internet-based innovation and entrepreneurship, Zhang said. China expects to see more than 10 million people employed by or running Internet-based startup companies this year, the ministry said.

Data roaming charges are set to be abolished within EU

The ban will be preceded by a 14-month interim period, in which companies can still add surcharges – but at a reduced rate. A deal, reached on last week sets out rules requiring telecom operators to treat most Internet traffic equally. The agreement is the culmination of years of campaigning to cut roaming charges and to define the EU nations' approach to regulating internet traffic. The USA has already adopted net-neutrality rules. It is estimated that roaming within the EU will be 75% cheaper during the interim period, the European Commission has said. The full ban on roaming charges will kick in from June 2017. Dave Millett, of independent telecoms brokerage Equinox believes that whilst this seems good news on the face of it – it leaves a number of questions unanswered:

1. What will happen to roaming charges elsewhere in the world? In the past when European prices have come down data roaming costs in the rest of the world have gone up
2. Why does it take so long to implement? Yes costs will drop in the interim, but two years is still a long time to wait
3. What happens to people / business who are midway through a contract that includes data roaming bundles when the changes happen? Will the operators reduce the prices for the remainder of the contract?
4. Why data only? What about voice roaming costs?

Finally is this another factor to be considered should the UK vote to leave the EU? Would travelers be back to paying for data just as the rules come into force?

GCC to cut roaming rates from April

Making roaming calls from GCC countries will become cheaper by up to seven dirham per minute from April next year. The Communication Regulatory Authority (CRA) announced a cap on roaming charges for voice calls, SMS and mobile data. The ceiling on local voice calls within the visited country will be QR0.95 per minute instead of QR1. The ceiling on voice calls to other GCC countries (including home country) will be QR2.33 per minute. For receiving voice calls, the price ceiling will be QR1.077 instead of QR1.277, while for sending (SMS), it will be QR0.292 per SMS. Price ceiling for mobile data will be QR4.74/mb. CRA's announcement comes after the GCC Ministerial Committee for Post, Telecommunications and Information Technology agreed to reduce roaming charges in member states in a meeting in Doha last month. The meeting decided to reduce roaming charges gradually over three years for voice calls and SMS services and for mobile data services over five years. Service providers are free to set prices below these regulatory caps, said CRA. "We are committed to promoting market competition and bringing additional benefits to consumers," said Mohammed Ali Al Mannai, President CRA. "The initiative is in line with our mandate to boost affordable state-of-the-art and innovative technology and telecommunications services in Qatar," he added. Service providers in Qatar have special roaming packages aimed at those who extensively use roaming mobile and data services abroad. Some current local retail charges for voice calls are lower than GCC ceilings. There are promotions also such as roaming 'Passport' packages useful for specific consumer roaming needs. The first roaming regulation was issued in June 2010 and took full effect in February 2012. It covered roaming voice calls but excluded other roaming services such as mobile data and SMS. The new regulation, a result of a comprehensive study and public consultation by GCC Roaming Working Group, addresses the gap.

New Zealand regulator holds firm on telecoms price controls

New Zealand's telecommunications regulator on Thursday rejected pressure from network operator Chorus Ltd to

allow it to charge more for use of its broadband and copper line networks, which the company says it needs to make them viable. The Commerce Commission said Chorus would be able to charge a wholesale price of NZ\$38.43 a month for a copper phone line and broadband connection, a few cents higher than that proposed last December but less than the company had sought for the government-backed ultrafast broadband network it is building. The draft decision, to be confirmed by the end of this year, will mean an increase of about NZ\$4 a month in the interim price imposed by the regulator last December. Most submissions to the commission had called for lower charges. Chorus said the new price limits would hit earnings before interest, depreciation, amortization and tax (EBITDA) by about NZ\$80 million (\$53.7 million) a year. The company posted EBITDA of NZ\$649 million last year and has forecast between NZ\$590 million and NZ\$605 million for the current year. The regulator, however, said the higher price should not be backdated, and was also proposing Chorus should cut transaction charges by nearly a third, which would cost the company NZ\$12 million a year in revenue. Chorus is building about 75 percent of the national ultrafast broadband network, which is going to cost around NZ\$1.7 billion with the government contributing NZ\$1.35 billion. "Chorus continues to believe that the draft pricing significantly undervalues the true cost of network investment in New Zealand," chief executive Mark Ratcliffe said in a statement. Chorus shares eased 0.7 percent to NZ\$2.98 in early trading, compared with a 0.4 percent rise on the broader market. The company has suspended its dividends and revised capital spending to cover the earnings impact of the price controls, which it had feared might cost it as much as NZ\$1 billion over six years. The company took the network operations of the former Telecom NZ Ltd, whose retail activities became Spark Ltd.



Mobile broadband and spectrum management

In 2013, the Broadband Commission identified mobile broadband as the fastest growing technology in human history; a bold assertion, but it's hard to think of an alternative.

Nowhere is this more in evidence than in Qatar and its GCC neighbours, where the sector has experienced consistent three-digit annual growth. The ability of mobile broadband to unlock opportunities anywhere in the world is one of the most inspiring stories of our times; but boosted by investment from hydrocarbon revenues and an entrepreneurial spirit, the digital transition is taking place here at breakneck speed.

Qatar's education system places strong emphasis on research and entrepreneurialism in STEM subjects, nurturing an increasingly tech-savvy population. Spurred by the need to transition from hydrocarbon dependence to a diversified, dynamic and sustainable economy, Qatar's leaders have also nurtured a fertile environment for international business, commerce and investment - all of which requires constant connectivity. This process is guided by coherent national plans for ICT

and broadband, to ensure that the sector is developed in a way that supports national objectives most effectively.

Of course, the economic incentives are only one side of the story. Qatar's culture has always been rooted in strong family and community bonds. Far from eroding local traditions, as is so often the case with processes associated with globalisation, mobile broadband has strengthened social networks by enabling constant contact with friends and family. As their country changes beyond all recognition around them, Qataris are using social media in particular to help articulate a new identity for their nation and for themselves.

Qatar's emergence as an advanced country is concurrent with, and supported by, the maturation of mobile technology globally. There are more mobile devices and apps on offer than ever before, and they are getting better and more affordable all the time. In particular, Qatar has been able to roll out 4G and also 4G+, much earlier in its development than might be expected elsewhere. Within a decade, owning a mobile device here has gone from a luxury to a necessity.



Jawad Aslam
Network Director
Vodafone Qatar

A quick glance at the situation in neighbouring GCC countries reveals a similar story, with mobile subscription penetration ranging from the mid-70s to more than 80 per cent of the population. Comparative wealth and good education, commercial dynamism and strong communities have all combined to make the Gulf probably the most digitally engaged region in the world.

But the industry is increasingly concerned that mobile broadband is in danger of becoming a victim of its own success. With the GSMA predicting a tenfold increase in global data traffic by 2019¹, a spectrum shortfall seems likely unless governments offer greater policy and investment support. This could have the unforgivable effect of constricting access to what has become an essential prerequisite for participation in the modern economy,

of overseeing a new network with just two operators (Vodafone Qatar and Ooredoo) who serve a population of just over two million. Contrast the situation in India, where 11 operators serve (potentially) 1.2 billion people. Cooperation, planning and oversight are therefore relatively more straightforward here, and we are fortunate to have regulators that are open to dialogue and receptive to new ideas.

While spectrum is therefore not a matter for immediate concern in Qatar, it will inevitably become so as the data market continues to grow exponentially. For example, while 5G is likely still several years away, alongside the growth of M2M and the 'internet of things', it will place unprecedented strain on spectrum allocations around the world.

small cell technology. Despite searing outdoor temperatures for most of the year, Qatar maintains a vibrant community spirit, and most evenings and weekends consequently see a sizeable proportion of the population gathering at shopping malls and other large indoor locations. Macro-solutions require huge capital expenditure, and often cause considerable disruption for end users; it therefore makes sense to target these pockets of intensely high demand with small-cell technology, which we are currently deploying successfully in malls throughout Doha.

Despite sharing the challenges that all operators will face in the coming years and decades, we are enormously confident about the future of mobile broadband in Qatar and the Gulf region generally. From continuing growth in conventional data usage, to the deployment of M2M across Doha in an effort to create the Gulf's first truly 'smart' city, Qatar's trusty development model of marrying government support with global expertise (in this case that of the Vodafone Group) is gradually securing it a leading role in the future development of mobile broadband.



as well as limiting the experience of existing users.

While spectrum allocation and security are already cause for concern in some countries, Qatar's Communications Regulatory Authority has the benefit

One of the ways in which we are preparing to meet the challenge is by making better use of the spectrum we already have, which is why we are working to implement and trial three bandcarrier aggregation for LTE this year. We are also exploring the use of

¹ http://www.theregister.co.uk/2013/09/23/mobile_where_the_growth_is_says_itu/

² <http://www.gsma.com/spectrum/>



TECHNOLOGY NEWS

TECHNOLOGY UPDATES

China Mobile, Huawei and Qualcomm, Debut Uplink Data Compression on 4G Network

China Mobile, along with Huawei and Qualcomm announced the completion of the industry's first commercial verification of Uplink Data Compression (UDC), a TDD technology, on a LTE TDD commercial network. The results indicate that Uplink Data Compression enable operators to maximize LTE-TDD uplink resources, greatly increasing the number of uplink users and achieving significant compression efficiency for various applications such as WeChat, and other services including web browsing. The use of Uplink Data Compression also greatly reduces the latency of Internet surfing for mobile users particularly in areas where performance is less than satisfactory, e.g. at the edge of coverage. TDD+ was initially proposed by Huawei and is a key part of 4.5G. Through a series of innovations, it can utilize MBB speed to xGbps level based on existing and future LTE TDD features such as Massive MIMO, 3D Beamforming, 256QAM, and UDC. Among these technology, UDC offers an uplink efficiency improvement. The LTE modem in the terminal intelligently compresses the uplink data at the LTE lower layers based on different conditions and application traffic, effectively reducing the amount of data transmitted over the air as well as the respective interference generated by the device. This results in

high compression gains reducing the uplink resource consumption and increase the overall uplink system capacity by 50%. Uplink Data Compression deployed without requiring any hardware upgrade. On the network side, operators need only upgrade the eNB software. On the terminal side, this technology is fully implemented in the LTE modem and thus completely independent from the mobile phone's operation system. It does not require changes to either the browser or other mobile phone applications, nor does it affect the operator's billing revenue system. Qualcomm Technologies' next generation LTE modems are expected to support this later this year, with Huawei's eNB solutions also ready for commercial release at the same time.

Ericsson, Swisscom and Qualcomm Achieve New LTE FDD/TDD First

Ericsson says that it has provided Switzerland's Swisscom with Europe's first fully commercial LTE A three carrier aggregation solution combining LTE in both FDD and TDD modes. The demonstration used three carriers in two bands in a radio access network and used commercial-grade chipsets. The Swiss operator deployed the solution on August 18, 2015 in a Swisscom shop in Zurich, Switzerland, and plans to roll it out to subscribers in Swiss metropolitan areas by summer 2016 to coincide with three-carrier FDD/TDD smartphone availability. For the demonstration in Swisscom's live



commercial network, two LTE TDD carriers, each with 20 MHz bandwidth in the 2.6 GHz frequency band (B41), and one LTE FDD carrier with 15 MHz in the 2.1 GHz band (B1) were used. The live demonstration in Zurich was supported by Ericsson Radio Access Network software 15B and hardware as well as by Qualcomm's Snapdragon X12 LTE modem. The combination of the three carriers in FDD-LTE and TDD-LTE will significantly enhance the future capacity of the network. The new technology will allow more users to benefit from peak data rates for downloads and uploads when using mobile internet, entertainment or enterprise services. In this specific set-up, a maximum 335 Mbps in the downlink was achieved.

UK hails superfast broadband progress

FTTH provider Gigaclear warns that reaching the government's 95% coverage target by 2017 will still leave many behind. The U.K. government revealed that 3 million premises have been covered by its rural superfast broadband scheme. In a statement, the Department for Culture, Media and Sport (DCMS) said it is on track to deliver at least 24-Mbps broadband to 95% of U.K. premises by 2017. Following the recent news that BT is returning £129 million of BDUK funds to the government, the DCMS confirmed it will make the money available to local authorities to reinvest in further extending broadband coverage. "It's fantastic to see that the rollout of superfast broadband is now delivering for customers and for the taxpayer. The levels of people taking up superfast broadband in areas where we invested public money are beyond our expectations, and BT is now reimbursing the public purse to deliver further coverage across the U.K.," said culture secretary John Wittingdale. Rural fiber-to-the-home (FTTH) provider Gigaclear praised the progress that has been made, but warned that getting to 95% and beyond represents a much harder challenge. 3 million is "a decent number," said Gigaclear CEO Matthew Hare. He explained to Total Telecom that there are approximately 31 million properties in the U.K., and around 20 million of those are covered by BT and Virgin Media's networks. "That leaves about 10 million...and if approximately a third of those have now got superfast [broadband] service as a result of the intervention by the counties and by

the government, they're a third of the way through the job they need to do," he said. Reaching 95% of premises by 2017 will prove more challenging than the approximately 80% covered to date, Hare warned, because these will include areas of the country that are even more remote than those already covered by the BDUK rollout. "If they manage to achieve that, that's still going to leave a lot of people who are getting even further left behind," he said. "The challenge really is, how do we get to 100% and what does 100% look like, and what is it that we need to deliver as a country in order to have as few people as possible left behind?" Ernst & Young's lead telecoms analyst Adrian Baschnonga agreed that more work needs to be done to ensure that no one gets left behind. "Geographical availability of superfast broadband is far from uniform in the U.K. and a detailed approach still needs to be agreed on how best to connect the country's most remote regions using alternative technologies," he said. Ultimately though, those living in the most remote areas of the country might have to accept they may never receive superfast broadband coverage. "If you choose to live in a croft in the remote wilds of northwest Scotland, it might be a life choice for you not to have great connectivity," Hare suggested.

Ooredoo Qatar tests tri-band carrier aggregation

Ooredoo Qatar is introducing tri-band carrier aggregation. The combination of 20+10 MHz bands on its 4G+ network enables Ooredoo to reach speeds of up to 375Mbps. The faster services will be available to customers as and when compatible devices come onto the market. In December 2014, Ooredoo, Nokia Networks and China Mobile achieved a record-breaking speed of 4.1 Gbps over TDD-FDD LTE, in an experiment to demonstrate future user demand. To ensure customers have access to next-generation services wherever they are in Qatar, Ooredoo has also launched "Operation Desert", which aims to significantly improve coverage in Qatar's popular desert locations in time for the upcoming camping season. As part of the upgrade Ooredoo will invest in the latest wide band antenna systems, which provide the flexibility to smoothly upgrade capacity as per customer requirements, as well as meet existing and future capacity needs in the country.

Verizon Tests 10-Gig

Verizon said it has successfully tested NG-PON2 FTTP technology that, it claims, could "easily provide" symmetrical speeds of 10 Gbps to business and residential customers. The telco, which is currently offering up to 500 Mbps up and down on its residential FiOS high-speed Internet platform, said the next-gen PON tech likewise will "open the door" to a blistering 80 Gbps. Verizon said the trial conducted with a NG-PON2 equipment system from Cisco and PT Inovação at the telco's central in Framingham, Mass., to a FiOS customer's home three miles away, as well as to a nearby business location. The trial used a new optical line terminal (OLT) installed at the central office that pumped out four wavelengths that was each capable of operating at 10 Gbps down by 2.5 Gbps up. Future versions will support symmetrical 10G per color, the company said. Verizon noted that upgrades on the FTTP network will start when commercial equipment is available to support business offerings such as switched Ethernet services. The telco plans to issue a request for proposals later this year for the hardware and software needed for a new NG-PON2 platform. While 10-Gig "would be most attractive for business customers," Verizon said that picture will change for consumers amid the adoption of 4K video and the expected explosion of the so-called Internet of Things, which will generate demand for higher symmetrical speeds and lower latencies. "The advantage of our FiOS network is that it can be upgraded easily by adding electronics onto the fiber network that is already in place," Verizon VP of network technology Lee Hicks said, in a statement, "Deploying this exciting new technology sets a new standard for the broadband industry and further validates our strategic choice of fiber-to-the-premises." The field trial, the telco said, validated an important service reliability feature of NG-PON2 – it simulated a fault in the central office equipment, but the ONT restored its own 10G service "in seconds" by autonomously tuning to another wavelength. According to Hicks, NG-PON2 will have the system capacity to grow to 40 Gbps to 80 Gbps, by adding new colors of light onto the existing fiber. Each new color beefs up the capacity by up to 10 Gbps. The new technology could raise the stakes in the broadband game. Thanks



in part to pressure being applied by Google Fiber, the high-end benchmark for residential broadband is 1 Gbps. Comcast, meanwhile, has begun to offer 2 Gbps residential service via its targeted, FTTP-based "Gigabit Pro" product. DOCSIS 3.1, an emerging platform for HFC networks, is aiming for capacities of 10 Gbps down and at least 1 Gbps downstream.

Microsoft introduces Windows 10 for Internet of Things devices

Microsoft has introduced its Windows 10 IoT Core, a light version of the Windows 10 operating system for the Internet of Things. According to The Next Web, 10 IoT Core will run the Raspberry Pi 2 and Minnowboard Max and can work on devices regardless of whether they have a display. It is a light version of the Windows 10, so there is no Windows interface or desktop experience. So instead developers must create a universal app that functions as the interface for the user's device. Windows 10 IoT Core have been significantly upgraded since its first preview release in May, which includes Wi-Fi and Bluetooth, which now work and help keeping the devices connected to the Web. Also, it now has better support for Python and Node.js and new APIs for the Universal Windows Platform that powers Windows 10 apps. Microsoft says IoT Core is designed to have a low barrier for entry and make it easy to build professional devices and works with a variety of open source languages. Microsoft is including several code samples for IoT devices on Github and it is also worked to make it easy for Arduino boards to communicate with Windows 10. The users will need a launch version Windows 10 Build 10240 and Visual Studio 2015 on their development device if they want to create IoT software.

Electronic skin sensors to control mobile gadgets

A skin-worn sensor that turns the human body into a touch sensitive surface for controlling mobile devices has been developed by scientists in Germany. iSkin is made from biocompatible silicone rubber with pressure-sensitive sensors that are stuck to the skin of the users, allowing them to use their own body to control mobile devices. Developed by scientists at the Max Planck Institute

for Informatics and Saarland University, the experimental system has been produced in different shapes and sizes to suit various locations on the body, such as the finger, forearm and even behind the ear-lobe. The sensor is capable of detecting touch input pressure even when being stretched or bent. With the current prototypes; wearers can answer incoming calls, play music and adjust volume. A roll-up keyboard for use with a smart watch has also been designed. iSkin's thin, soft and flexible design presents new possibilities for mobile interaction that have not been possible with existing hardware, according to co-developer Martin Weigel. "Current electronics are mostly using rigid components which are very uncomfortable to wear on the body and are limiting the locations to, for example, the wrist or on the head to be worn. But our sensor is a flexible and stretchable sensor, so it can cover many locations. For example, even the backside of the ear or the forearm. So, we have a much larger input space than current electronics allow for," he said. The prototype is based on advances in so-called 'electronic skin' that allow robots to better sense their environment, as well as more human-like prostheses that can sense contact, pressure and temperature. iSkin's makers saw this as an ideal platform for on-body interaction for mobile computing. "(The) technology is initially coming from robotics where it's used to give robots kind of a feeling similar to the human body, to human skin. However, we are the first to look into how we can use it on the body to control mobile devices; so as a kind of second-skin which nicely conforms to your body," said Weigel. The base material is polydimethylsiloxane (PDMS), an easy-to-process silicone-based organic polymer. Conductive carbon black powder is added to the liquid silicone before it is spread flat by a thin-film applicator. After creating the tattoo-like designs on a computer, a laser-cutter traces out the design which makes up the sensor. This is then sandwiched between two clear sheets of silicone. "The sensor is made out of bio-compatible silicone and carbon-doped silicone. So there are carbon particles inside the silicone which make it conductive so we can use it for electronics," explained Weigel. The stickers are attached to the body using a medical-grade adhesive that can be easily peeled off after use without hurting the skin. The current prototypes are wired to a computer,

although the technology could evolve to use integrated microchips. Weigel also hopes that it could one day be possible to incorporate an energy-harvesting system that would power iSkin via the wear's body. While they have no immediate plans to develop this iSkin prototype further, the team hope it will inspire future research on electronic skin for human-computer interaction.

New chipsets lay groundwork for gigabit speeds to more homes

Chipset vendors such as Broadcom and STMicroelectronics have launched products that'll make it possible to offer gigabit speeds over fiber as well as over copper and cable networks. Broadband operators are already offering gigabit speeds over fiber, but the development of new technologies will help make super fast broadband networks more common during the next couple of years. TMicroelectronics (ST) this week announced its DOCSIS 3.1 chipset, code-named Barcelona, which goes into home cable modems and gateways. DOCSIS 3.1 will enable higher speeds at a larger scale and more cost effectively, which could help convince cable companies to roll out faster networks. It's difficult to predict what speeds users will end up getting, but the maximum capacity is 10G bps downstream and 1G bps upstream. Barcelona, or STiD325, is currently available in small numbers to some of ST's larger customers, according to the company, which didn't say when the first products based on it would arrive. However, Comcast revealed two weeks ago it would at least start testing DOCSIS 3.1 during the fourth quarter. Company CEO Brian Roberts said the technology "will be a quantum leap forward" during its second-quarter earnings conference call. This week, competing chipmaker Broadcom also announced a gateway reference design it said makes it easier for cable operators to roll out fiber to users' homes without having to upgrade their existing infrastructure. Chipmakers release reference designs to show how their components can be used and in the process make it easier to develop products based on them. Both ST and Broadcom demonstrated their products at the CableLabs Summer Conference in Keystone, Colorado. At the same time, work is progressing on a technology called G.fast, which will allow telecom



operators to offer gigabit speeds or at least several hundred megabit per second over copper networks. To lower the bar for rolling out that technology, chipmaker Skypio Technologies recently announced reference designs for supporting G.fast modems inside an SFP (small form-factor pluggable) module. The growing momentum around G.fast was highlighted on Thursday when Qualcomm acquired Ikanos Communications, which has been a key figure in the development of the technology. In Europe, British Telecom, Telekom Austria and Swisscom are all testing G.fast. The latter two plan to launch commercial services next year. BT has said it will launch its services either next year or in 2017. Ikanos has also tested the technology with operators in Japan and Korea. G.fast and DOCSIS 3.1 use a mixture of copper or coaxial cable and fiber to connect users. Fiber is used as far as possible, and the other two cable types take over for the last bit to the subscriber. Ultimately, it doesn't really matter what cables are used as long as the performance doesn't disappoint, and it seems G.fast and DOCSIS 3.1 can deliver speeds that meet expectations.

Qualcomm Enables Wireless Charging for Mobile Devices with Metal Cases

Qualcomm says it has engineered a solution to allow wireless charging for devices with metal exteriors. The ability to charge smartphones and other devices without wires offers unmatched convenience to consumers, and until now, charging a device with a metal exterior has been incompatible with wireless charging technologies. The new solution, which uses Qualcomm WiPower technology, is designed to be compliant with the Rezence standard and becomes the first announced solution to support wireless charging for metal devices. "Building a wireless charging solution into devices with metal exteriors is a significant step for moving the entire industry forward," said Steve Pazol, General Manager of Wireless Charging, Qualcomm Incorporated. "Today, more device manufacturers are choosing to utilize metal alloys in their product designs to provide greater structural support and, of course, aesthetics. QTI's engineering advancement eliminates a major obstacle facing wireless power and

opens up the continued adoption of this desirable feature to a much wider range of consumer electronics and use cases." WiPower, as well as other technologies that meet the Rezence standard, operate at a frequency that is more tolerant of metal objects that come within the charge field. Up to now, this meant one could typically have objects such as keys and coins in the charge field and not affect the charging process. Today, WiPower has added the ability to have the device itself made of metal. This advancement maintains WiPower's existing ability to charge devices requiring up to 22 watts today, at speeds equal to or faster when compared to other wireless charging technologies. Based on Near Field Magnetic Resonance technology, WiPower enables greater flexibility and convenience in wireless charging, allowing a wide range of compatible consumer-electronic and handset devices to charge without the need for precise alignment or direct physical contact. Additionally, the technology enables simultaneous charging of multiple devices with different power requirements while using Bluetooth Smart to minimize hardware requirements.

KT and NEC to partner on 5G network technology development

South Korea's KT Corp, the country's second-largest cellco by subscribers, has reportedly inked a deal under which it will work with Japanese hardware vendor NEC Corp to develop fifth-generation technology. According to Yonhap News Agency, as per the terms of the agreement between the two companies, KT and NEC will cooperate in setting global standards of the 5G technology and jointly develop data transmission systems and antennas. Meanwhile, it is understood that KT is aiming to inaugurate 5G infrastructure in time for the 2018 Winter Olympic Games, which are to be held in PyeongChang.

MTS Rolls out Russia's First Ericsson Radio Dot System

Ericsson and Russia's Mobile TeleSystems (MTS) have successfully completed the first live deployment of the Ericsson Radio Dot System in a commercial building in Russia. Installed at a 50,000-square meter shopping mall in Astrakhan, the Radio

Dot efficiently boosts indoor mobile coverage and capacity. Since the Radio Dots with Carrier Aggregation functionality started running live on MTS' commercial 3G network, MTS subscribers throughout the building are able to enjoy an average data speed of 14 Mbps. Andrei Ushatskiy, Vice President and Chief Technology and Information Officer, MTS, says: "Knowing the importance of delivering not only good in-building coverage but also having good data throughput for our customers, we used this project to fully understand all the benefits of this solution for improving our network performance." A recent Ericsson ConsumerLab report reveals that the need for indoor coverage has increased and needs to be improved. 9 out of 10 decision-makers agree that indoor data traffic over 3G/4G/LTE has increased compared to 2 years ago.

ZTE and U Mobile ink MoU on development of 5G technologies

Malaysia's U Mobile has signed a Memorandum of Understanding (MoU) with Chinese vendor ZTE on the development of 'pre5G' mobile broadband technologies, the latter has announced. ZTE said that the partnership would help U Mobile deliver 'substantial network performance upgrades' using its proprietary pre5G technologies, including Massive multiple input multiple output (MIMO). In addition, it was confirmed that the MoU also covers collaboration between the two companies with regards to the research and development of 5G technologies. Commenting on the deal, Too Tian Jen, chief technology officer of U Mobile, was cited as saying: 'U Mobile is constantly exploring new technology that will provide best in class users experience to our customers ... We see 5G technology as the technology that would support the ever increasing communication needs of the future. The collaboration with ZTE will also support our government's vision of being a Smart Digital Nation by 2020.'

ChinaMobileHK, Ericsson trial LTE-A FDD+TDD 3CC aggregation

China Mobile Hong Kong has partnered with Ericsson to demonstrate three component carrier (3CC) aggregation, using LTE-Advanced (LTE-A) Frequency Division Duplex Long Term Evolution



(FDD-LTE) and Time Division Duplex Long Term Evolution (TDD-LTE) technology. The cellco achieved peak download speeds of 272Mbps during the trial, which utilized TM500 network testers supplied by Cobham Wireless. In the demonstration, one 15MHz FDD-LTE block in the 2.6GHz band was aggregated with two TDD-LTE blocks (20MHz + 10MHz) in the 2.3GHz band. Dr. Ma Zibin, director and vice president at China Mobile Hong Kong, commented: 'We have just achieved another milestone for [our] converged FDD-LTE/TDD-LTE network, and see it as a huge development for the future needs of the services supplied by telecoms [operators] to their customers. China Mobile Hong Kong pioneered the world's first FDD-LTE/TDD-LTE converged network in 2012, and we continue our commitment by demonstrating the advantages of 3CC carrier aggregation on a live network.' China Mobile Hong Kong expects to commercially launch 3CC LTE-A technology in 2016.

Orange Poland plans G.fast pilot

Telco to build on successful tests with pilot project for homes beyond reach of FTTH. Orange Poland has announced plans to trial G.fast technology before the end of 2015. The company revealed in a blog post last week that it successfully tested G.fast at its Orange Labs in July. The test sought to ascertain the feasibility or otherwise of using G.fast to deliver high-definition TV, VoIP, and 300 Mbps broadband services. "The tests went well and we will soon begin preparations for the pilot," said Orange Poland. The telco's upcoming G.fast trial will attempt to provide up to 500 Mbps broadband to customers beyond the reach of Orange's fibre-to-the-home (FTTH) network. "The solution is part of the concept of DLA (drop line agnostic), which implies the use of different transmission media...such as copper line, coaxial cable, or Ethernet cable," Orange Poland explained. With this announcement, Orange has joined a growing list of telcos exploring the potential of G.fast. U.K. incumbent BT plans to conduct two G.fast trials this summer with a view to rolling it out to much of the country within a decade. Telekom Austria, Saudi Telecom and Taiwan's Chunghwa Telecom are also testing out G.Fast.

Gemalto Demonstrates Remote Provisioning of Consumer Devices Based on GSMA Architecture

Gemalto has presented a demonstration that brings to life for the first time a common architecture for the remote provisioning of consumer devices as defined by the GSMA, operators and device manufacturers. In a recent survey, E&Y projected that more than 7 billion devices will be connected by 2020, with smartphones, PCs and tablets still expected to be the largest contributors. This substantial growth in connected objects brings concerns about standardization and security. The Gemalto demonstration showcases how a primary device, like a smartphone, can be used to conveniently activate or deactivate connectivity on a secondary device, like a smartwatch or tablet, using mobile broadband or WiFi. This will give end users the flexibility to easily add new devices such as tablets and smartwatches to existing wireless service contracts. By adhering to profile interoperability as specified by the SIM Alliance, telecom operators and consumer electronics companies can benefit from easy deployment and a faster time to market. "Gemalto has been at the forefront of defining and embracing standards-based technologies for several years," said Benoit Jouffrey, Vice President On-Demand Connectivity for Gemalto. "Our On-Demand Connectivity platform provides a solution for operators, device manufacturers and service providers alike, to provide secure and instant connectivity to the end consumers for their growing array of smart devices. Showcasing the GSMA consumer market architecture and the profile interoperability gives us the opportunity to put forth a stepping stone for the IoT industry at large to embrace standardized technologies for quicker adoption."

Consortium Promoting 6Ghz-100Ghz Spectrum for 5G Networks

mmMAGIC, an international consortium led by Samsung and bringing together key vendors and major European operators has kicked off its race to develop concepts and key components for a new 5G mobile radio access technology which is expected to operate in a range of frequency bands

between 6 and 100 GHz, including mm Wave frequencies. The use of such extremely high frequencies for mobile communications is challenging but necessary for supporting 5G's extreme mobile broadband service which will require very high (up to 10 Gbps) data rates, and in some scenarios, also very low end-to-end latencies (less than 5 ms). The project aims to accelerate standardization of millimeter wave technologies for 5G so that the industry and citizens will benefit from commercialization by 2020. The mmMAGIC project is co-funded by the European Commission's 5G PPP program, bringing together major infrastructure vendors (Samsung, Ericsson, Alcatel-Lucent, Huawei, Intel, Nokia), major European operators (Orange, Telefonica), leading research institutes and universities (Fraunhofer HHI, CEA LETI, IMDEA Networks, Universities Aalto, Bristol, Chalmers and Dresden), measurement equipment vendors (Keysight Technologies, Rohde & Schwarz) and one SME (Qamcom). mmMAGIC is led and coordinated by Samsung. Ericsson acts as technical manager while Intel, Fraunhofer HHI, Nokia, Huawei and Samsung will each lead one of the five technical work packages of the project. The project was officially launched 1st of July and will last for two years. However, the consortium decided to jump-start its research three months ahead of the official EC launch in order to deliver its first results by the end of July. The mmMAGIC project will develop and design new concepts for mobile radio access technology (RAT) for deployment in the 6-100 GHz range, including novel waveform, frame structure and numerology, novel adaptive and cooperative beamforming and tracking techniques to address the specific challenges of millimeter wave mobile propagation. This new RAT is envisaged as a key component in the overall 5G multi-RAT ecosystem. Seamless and flexible integration with other 5G and LTE radio interfaces are foreseen in the design of mmMAGIC's radio network architecture and this will be realized through improved and entirely novel inter-networking functionalities that will be developed in the project. Self-backhauling and front hauling capabilities are also foreseen, thereby creating a holistic, scalable and economically viable integrated 5G solution to meet future needs of operators, enabling, for example, ultra-high definition TV and video streaming, virtual reality, immersive



experience, and ultra-responsive cloud services in 5G for mobile users. The project will undertake extensive radio channel measurements in the 6-100 GHz range at multiple locations in Europe, and will develop advanced channel models that will be used for rigorous validation and feasibility analysis of the proposed concepts and system, as well as for usage in regulatory and standards fora. The ambition of the project is to pave the way for a European head start in 5G standards and to be a focal point for European and global consensus building on the architecture, key components and spectrum for 5G systems operating above 6 GHz.

Breakthrough Memory Technology by Intel and Micron

Breakthrough Memory Technology by Intel and Micron is the latest production which will revolutionize the market and other devices. 3D XPoint technology is a major breakthrough in memory process technology and the first new memory category since the introduction of NAND flash in 1989. The blast of joined gadgets and advanced administrations is producing gigantic measures of new information. To make this information valuable, it must be put away and investigated rapidly, making difficulties for administration suppliers and framework developers who must adjust cost, force and execution exchange offs when they outline memory and capacity arrangements. 3D XPoint innovation joins the execution, thickness, power, non-unpredictability and expense focal points of all accessible memory advancements available today. The innovation is up to 1,000 times quicker and has up to 1,000 times more noteworthy endurance than NAND, and is 10 times denser than routine memory. The non-unpredictable nature of the innovation additionally settles on it an extraordinary decision for a mixed bag of low-dormancy stockpiling applications since information is not eradicated when the gadget is controlled off. This will revolutionize the Gaming Experience as well as the storage of personal files to your devices. The latest technology is built on some basic principles. It introduces another class of non-unpredictable memory that altogether lessens latencies, permitting significantly more information to be put away near to the processor and got

to at velocities already inconceivable for non-unstable capacity. The inventive, transistor-less cross point building design makes a three-dimensional checkerboard where memory cells sit at the convergence of word lines and bit lines, permitting the cells to be tended to separately. Thus, information can be composed and read in little sizes, prompting speedier and more productive read/compose forms.

Turkcell and Ericsson Collaborate on 5G Research and Development in Turkey

Turkcell and Ericsson have signed a Memorandum of Understanding (MoU) to collaborate on 5G research and development. The MoU was signed by Turkcell CEO Kaan Terzioğlu and Ericsson CEO Hans Vestberg at Ericsson Studio in Stockholm. The main objective of this MoU is to develop a joint understanding of 5G use cases, requirements and deployment scenarios, as well as evaluate performance and applicability of potential 5G key technology components and business collaboration as to 5G potential research projects. Hans Vestberg, President and CEO of Ericsson says; "We are expecting 5G adoption to begin in the near future, hence we are focusing on the ways in which the industry will adopt the 5G standard globally to deliver capabilities and services beyond the mainstream 4G offerings. With operator cooperation's like this, we bring research into the live test networks which give us valuable insights." 5G will evolve the entire future communication eco-system, from devices to mobile access, IP core and into the cloud. Ericsson's latest 5G test network initiatives focus on the interactions between mobile devices and the radio access network, in both indoor and outdoor circumstances.

China to get '10 times faster' pre-5G internet in 2016 amid premier's push for tech development

Hundreds of millions of Chinese mobile phone users will have access to much faster internet as soon as the first half of next year, thanks to a key technology development with strong

support from the central government to significantly improve internet speeds. Maggie Cui, vice president in charge of wireless operation at ZTE, told the South China Morning Post that ZTE has been working with China Mobile, the world's largest mobile phone operator, to test so-called "pre-5G" connections, which could be more than 10 times faster than current 4G mobile internet. "There is still some way to go before we can have a global recognised 5G standard but I think we can apply some mature advanced technology to existing 4G network before we officially enter the 5G era," Cui said on the sidelines of the Mobile World Congress (MWC) Shanghai. If successful, China could take the lead in pre-5G and later 5G technology development as top Chinese leaders including premier Li Keqiang have shown their frustration over slow internet speeds that they believe could hurt national economic growth and industrial restructuring. "China is the world's biggest mobile phone market, but internet speeds are ranked worse than 80th in the world. Our information infrastructure is backward," Li said during a cabinet meeting in May, according to the official Xinhua news agency. Li said state-owned mobile network service providers should aim to increase speeds for urban users by 40 per cent.

Rice Tests Wireless Data Delivery over Active TV Channels

Rice University engineers have demonstrated the first system that allows wireless data transmissions over UHF channels during active TV broadcasts. If the technology were incorporated into next generation TVs or smart remotes, it could significantly expand the reach of so called "super Wi Fi" networks in urban areas. "Due to the popularity of cable, satellite and Internet TV, the UHF spectrum is one of the most underutilized portions of the wireless spectrum in the United States," said lead researcher Edward Knightly. "That's a bitter irony because the demand for mobile data services is expected to grow tenfold in the next five years, and the UHF band is perfectly suited for wireless data." Knightly, professor and department chair of electrical and computer engineering and director of the Rice Wireless Network Group, said the UHF spectrum, which ranges from 400 to 700 megahertz, is often called



the “beachfront property” of the wireless spectrum. Unlike the higher frequency signals used for existing Wi-Fi hotspots, UHF signals carry for miles and are not blocked by walls or trees. Because of these advantages, wireless data hotspots that use UHF are often referred to as “super Wi-Fi.” In the U.S., TV broadcasters have been given preferential access to the UHF spectrum for more than 50 years. If no TV broadcaster has laid claim to a UHF channel, the Federal Communications Commission allows secondary users to transmit wireless data on that channel, provided that the transmissions do not interfere with TV broadcasts in any part of the UHF spectrum. The rules governing this secondary access are often referred to as “TV white space” rules in reference to the industry term for used or blank portions of the TV spectrum. “Unfortunately, in the most densely populated areas of the country, where the need for additional wireless data services is the greatest, the amount of available white space is extremely limited,” Knightly said. “In our most recent tests in Houston, one channel is open in parts of the city and none are available in others. This is fairly typical of a large U.S. urban area.” Though most of the UHF band is already taken in U.S. cities, it is largely underutilized. According to a 2014 report by the TV rating company Nielsen, fewer than 10 percent of U.S. households rely on over-the-air broadcasts for TV programming. To demonstrate that wireless service providers could make use of the UHF spectrum without interfering with TV broadcasters, Knightly and Rice graduate student Xu Zhang developed a technology called “Wi-Fi in Active TV Channels,” or WATCH, and received FCC approval to test it at the Rice campus in 2014. WATCH requires no coordination with or changes to legacy TV transmitters. Instead, TV signals are broadcast as normal and the WATCH system actively monitors whenever a nearby TV is tuned to a channel to avoid interfering with reception. The technology to allow this comes in two parts. One aspect of WATCH monitors TV broadcasts on a channel and uses sophisticated signal-canceling techniques to insert wireless data transmissions into the same channel; that eliminates TV broadcasts from interfering with the super Wi-Fi data signals being sent to computer users, Knightly said. The other aspect of WATCH is dedicated to making certain that data transmissions do not

interfere with TV reception; this part of the technology would require TVs to report when they are being tuned to a UHF channel, Knightly said. In practice, this could be accomplished with either smart TV remotes or next-generation TV sets. In the tests at Rice, Zhang constructed a “smart-remote” app that reported whenever a test television in the lab was tuned to a UHF channel. When that happened, the WATCH system automatically shifted its data transmissions to another part of the UHF spectrum that wasn’t being used. “Our tests showed that WATCH could provide at least six times more wireless data compared with situations where we were limited only to the traditionally available white-space spectrum,” Knightly said. With WATCH in use, Knightly said it took a fraction of a second longer than normal to tune in a UHF TV broadcast on the test television. While the increment could be measured -- it was less than a 5 percent increase -- it was almost imperceptible to the person switching channels, he said. Zhang and Knightly’s report on the research, titled “WATCH: Wi-Fi in Active TV Channels,” won best-paper honors last month at Association of Computing Machinery’s MobiHoc 2015 conference in Hangzhou, China. Knightly said technology like WATCH will become increasingly important as the demand for wireless data services increases and the number of broadcast TV viewers decreases. For example, a 2014 Cisco report found that nearly a half-billion mobile devices with data connections had been added to the global supply within the previous year, bringing the global total to 7.4 billion -- a bit more than number of people on Earth, according to the U.S. Census bureau. Of the 7.4 billion data-connected devices, Cisco found that more than a quarter were smartphones, which used an estimated 22 times more data than nonsmart devices. “Allowing the UHF spectrum to be inefficiently used makes little sense today and will make even less sense in the future,” Knightly said. “There are already more people in the United States who require mobile data services than there are people using broadcast-only TV. By showing that these two communities can coexist, we hope to spur innovation and a public debate about how this valuable resource could be used.”

KT’s GiGA Wire technology adopted as a standard by ITU-T

South Korea based KT Corp’s ‘GiGA Wire’ technology, which uses enhanced Gigabit Home Networking (G.hn) technology to deliver total bandwidth of approximately 500Mbps to MDU dwellings over existing in-building copper wiring, has reportedly been adopted as an international standard at an ITU-T meeting. According to Business Korea, on the back of the development KT will now be able to sell GiGA Wire to countries which may wish to upgrade existing copper networks, with the United Kingdom, France, the United States and Japan all named as places where there may be an interest in the technology.

Advancements in LTE Set the Foundation for 5G

With more than 635 million LTE connections worldwide, and a global growth rate of 150 percent as of the first quarter of 2015, LTE mobile broadband technology will offer a lot of growth in the coming decade and set the stage for the forthcoming ‘5G’ technology standards development. 4G Americas has published a report on the latest updates in 3GPP Release 12 (Rel-12) standards as well as the introduction of new features in Release 13 (Rel-13) that indicate the extent of technological developments that will accompany the phenomenal growth currently underway for the 425 commercial LTE networks in 145 countries worldwide. “There is a tremendous future ahead for LTE mobile broadband technology as detailed in the 3GPP standards in Releases 12 and 13 and beyond,” stated Jim Seymour, Principal Engineer at Cisco and co-leader of the working group that authored the 3GPP report. “Both HSPA+ and LTE will be the predominant technologies well beyond the next ten years as operators around the world continue their investments in building a strong foundation through to the next or 5th mobile broadband generation currently being considered as IMT-2020 by the ITU.” The white paper contains a full update on the Rel-12 standards which were finalized in December 2014 and the many features for both LTE-Advanced and HSPA+ that brings greater efficiency for networks and devices,



as well as enables newer services. "3GPP continues its outstanding work in preparing network architecture and features for the unceasing data demand," commented Teck Hu, Senior Standards Manager at Alcatel-Lucent and co-leader of the 4G Americas working group that produced the white paper. "Release 13 is in the unique position of being the Release prior to Release 14 where it is expected that the first set of features addressing IMT-2020 requirements towards 5G will be considered." Standardization work on Rel-13 was initiated in June 2014 with some early approval of higher priority items. With work ongoing at this time, finalization is expected by early 2016.

Machine-to-machine? It's all about people

For Internet of Things projects to be successful, they need a strong human vision behind them. "People with M2M knowledge are a scarce resource," Vodafone's director of machine-to-machine, Erik Brenneis, said at an event in London this week. Indeed, 26% of respondents in Vodafone's M2M Barometer 2015 cited lack of knowledge as a potential barrier to the increasing use of M2M by their business (see chart). To get around this, "people will educate themselves, or hire people with experience," Brenneis said, although the latter could be easier said than done. While big companies have more skills at their disposal, smaller firms "have big trouble finding the right people," he said. Getting the most out of M2M requires the right staff, but it also needs the buy-in from major decision-makers. With the Internet of Things (IoT), enterprises will have to adapt to a new operating environment, working with greater flexibility, said M2M specialist and CEO of Machina Research Matt Hatton, speaking at CommunicAsia in Singapore last month. "This has to come from the top," Hatton said. Companies need what is "effectively a chief IoT officer." Vodafone did not list that particular job title among the 659 CEOs, CIOs, and technical, sales and IT staff in 16 countries that responded to this year's M2M survey. The headline findings were that awareness and usage of M2M are growing, and companies are generating returns on their investment in the technology within 12 months. The study also showed a greater involvement in M2M from the top

echelons of management. While CIOs and IT executives still consider M2M projects to be part of their domain, CEOs view them more as innovation projects, Vodafone's data shows. In 41% of cases, CEOs are directly involved in M2M deals, alongside the CIOs, Vodafone said. M2M is no longer a siloed IT project within an organization, said Phil Skipper, Vodafone's head of M2M business development. "It's now impacting multiple parts of the business," he said. The chief IoT officer is not necessarily a role within an enterprise though; the concept has wider implications. There has been much hype around the concept of smart cities, and in that context the mayor, or even a country's president, fulfils the CIO role, if you'll excuse the initialism. "It's very important they have a leader pushing for these kinds of services," Alex Chau, head of Asia at Machina Research, explained to Total Telecom last month. "He needs to have a vision for the city or for the country," he said. Smart city-type projects essentially need both funding and a strong idea of what they are looking to achieve, although the latter is arguably more important. Even cash-strapped places can usually "get money somewhere," Chau said, because there is plenty of funding available for IoT projects if those driving them know where to look. However, "without vision, you're a lame duck," he warned.

OTT drives new home broadband technologies

The burgeoning interest in on-demand streaming video, driven by over-the-top (OTT) service offerings such as Netflix and Amazon Prime Instant Video, is putting an enormous strain on in-home networks, which are struggling to cope with the growing demands on bandwidth. According to HomeGrid Forum president Donna Yasay, these trends are adding to bandwidth congestion and the need to find reliable ways to deliver increasing amounts of traffic. "More and more people are choosing to opt out of traditional broadcast TV in favour of all-IP services," she said, speaking at the Broadband TV event in Anaheim, California. "And they generally no longer have just one entertainment point or internet outlet in the home – it's more likely to be one in every room." The demand is exacerbated by the availability of new devices that provide streaming video,

such as connected TVs and streaming media devices, game consoles and set-top boxes, and a plethora of other new gadgets on the market, from wearable technologies to smart devices in the home. OTT streaming services are predicted to reach over 330 million subscribers globally by 2019, according to a recent Juniper Research study, published in May of this year. "That's more than the entire population of the United States, men women and children included!" Yasay said. Yasay added that number is likely to continue increasing rapidly as more and more homes install smart meters, security systems, CCTV monitoring and other smart systems. "So what is the downside? None, providing your in-home network is up to the task of handling so much bandwidth and dispersing content to all four corners of your home," Yasay said. "And of course, if you live in a dense residential environment, such as an apartment block, you need to know that the network can handle the close proximity of other networks, something wireless often struggles with." Yasay argues that the quality of experience these services require and the bandwidth block that can arise with so much going on in one small space, can only be handled in multi-room, multi-device homes and multi-dwelling units (MDUs) by mixing and matching the wireless and wireline networking to fit individual consumer's or family's needs. "What makes most sense is to take the best of all the networking technologies and combine them," Yasay said. "Wireline technologies of any description, running at Gigabit speeds around the home with G.hn make a robust, reliable backbone, connecting static devices such as TVs, smart meters, desktops, whilst access to the Internet from individual mobile devices can piggyback with Wi-Fi onto the network."



The future of mobile broadband and the need for innovative spectrum management solutions

1- General Introduction

Mobile broadband is the marketing term for wireless Internet access through a portable modem, mobile phone, USB wireless modem, tablet or other mobile devices. The development of mobile telecommunications is extremely fast. Its necessity has increased and this is obvious as the large number of mobile users and stations is increasing day after day. Data usage is increasing rapidly and smartphones are showing a tremendous traffic growth, which can only be sustained by next-generation networks. The speed of growth for LTE has overtaken all previous technologies

and is expected to grow even faster during the next few years as illustrated in the below figure:

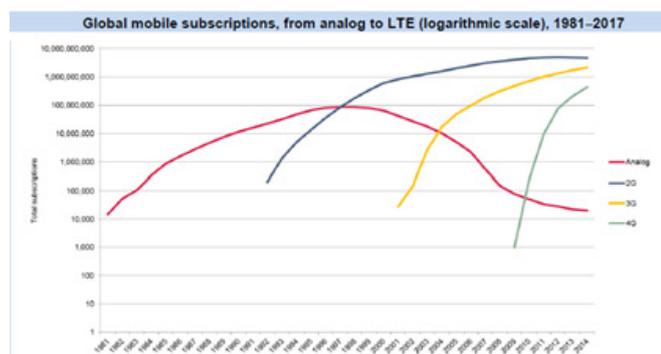
There are several reasons why LTE is growing faster than previous technologies, but the most important is subscriber data awareness and its time of arrival in the market. The key ingredients to the success of – and perhaps the need for – LTE in the market are mainly smartphones, market evolution, new revenue opportunities and spectrum consolidation.

Long Term Evolution (LTE) is arguably the first cellular data network designed for data access (flatter IP architecture, OFDM, higher spectral efficiency, lower latency, etc.)

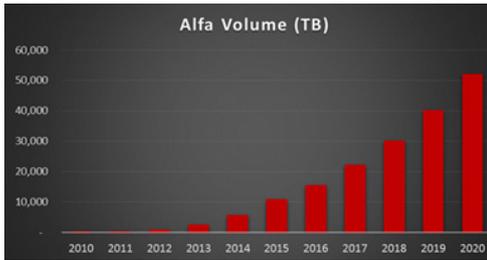
Previous networks, including analog and 2G, had been designed for voice while 3G was an intermediate step (a combination of circuit-switched voice and packet-



Joseph Abou Nasr
RAN Engineering Head of
Department
Alfa – Managed by Orascom
Telecom



Source: Ovum



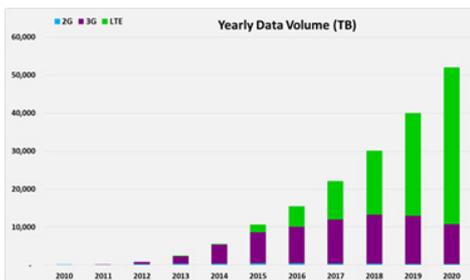
based data) but it is still considered as a voice-driven network through the planning and deployment techniques.

2- Mobile broadband in Lebanon

The worldwide forecast is heading toward a huge increase in data subscribers and traffic. This immense increase is foreseen in Alfa network as well, where the forecasted increase in data volume and data subscribers are illustrated in the below figures (Actual till 2015 and forecasted till 2020).

Worth noting that this traffic forecast is based on normal increase without considering new bundles or price reductions related to data packaging.

The forecasted distribution of data volume between the 3 available technologies (2G, 3G and LTE) is illustrated in the graph below:

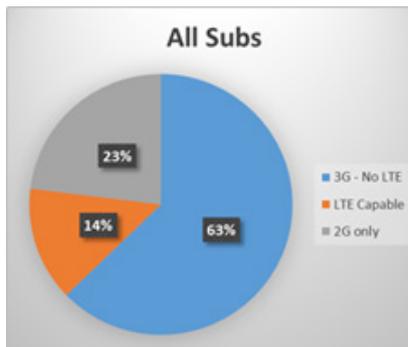


Moreover, the below pie chart illustrates the current mobile penetration in Alfa network in regards to technology capabilities, where 14% of the subscriber base hold smartphones supporting LTE, 63% supporting 3G and 23% still 2G only. Noting that the smartphone penetration in Lebanon is considered to be relatively high compared to other countries in the Middle East and even in Europe (which is currently at around 80%)

3- Spectrum

Spectrum is the lifeblood of the mobile broadband industry. And as more consumers buy smartphones, which according to FCC, use around 24 times more data than a traditional cell phone, and tablets, which can consume around 122 times more data than old traditional phones, there is a greater need for spectrum.

All the operators are fighting to get more blocks of spectrum that would increase the speed of mobile devices. As a rule of thumb, the larger the allocated spectrum for an operator,



the better the quality and services that can be provided to its MBB subscribers. The management of the spectrum is carried out by the TRA (Telecommunications Regulatory Authority).

Up till today, Band 3 (1800MHz FDD), which is the band currently deployed for LTE in Lebanon, represents the largest addressable market of all of the major LTE bands (having 11% as a global share).

Band 3 has proved highly popular for 4G services due to its flexibility, relatively widespread availability, and ease of re-farming for LTE. And it is mainly utilized for capacity.

Alfa's plan is to introduce another band for LTE (on top of Band 3) in order to offer not only higher speeds and capacity to its MBB subscribers, but also a deep indoor LTE coverage. The new band is the 800MHz FDD (Band 20) which is considered as another major FDD band.

The current spectrum split between Alfa and Touch, on all technologies (2G, 3G and LTE) is illustrated in the below figure, noting that more spectrum will be allocated to LTE in the future, not only by introducing new bands, but also by re-farming from the existing ones currently allocated to 2G and 3G.

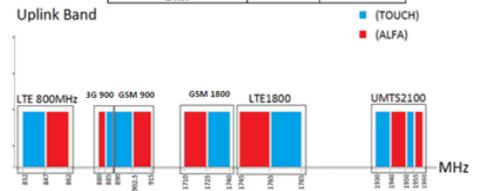
4- Alfa Plan

As a consequence to the above facts and in order to cope with the tremendous and continuous increase in demand for data traffic and new services in addition to the increase in MBB subscribers awareness and need for speed, Alfa's plan is to expand MIC1 LTE coverage all over Lebanon during the coming year and a half as part of the minister's 5 years plan that was announced on July the 1st 2015. The plan includes the introduction of the latest LTE-Advanced technology allowing peak rates up to 260Mbps on the DL by enabling carrier aggregation on 2 bands.

Executing this plan will bring us closer to 5G, which is expected to be standardized as of 2020 and where IOT (Internet of Things) will be the main driver for this new technology, opening the doors for new opportunities that will enrich the Lebanese economy such as Energy (smart metering and smart grids), building automation, moving objects, retail (vending machines and PoS), Medical & Health, Industrial Processes, etc.

The main challenges and obstacles remain the illegal use of the spectrum by external unauthorized entities which limit the quality of the mobile

System	Uplink (MHz)	Downlink (MHz)
GSM-900-Layer	902.5-915	947.5-960
GSM-1800-Layer	1710-1725	1805-1820
3G U2100	1940-1950	2130-2140
3rd Carrier U2100	1955-1960	2145-2150
3G U900	880-885	925-930
LTE 1800	1745-1765	1840-1860
LTE 800	847-862	806-821
CarrierA	1940-1945	2130-2135
CarrierB	1945-1950	2135-2140
CarrierC	1955-1960	2145-2150
U900 Carrier on PGSM Band	910-915	955-960
U900 Carrier on EGSM Band	880-885	925-930



broadband services in addition to getting the authority to use the fiber optic in Alfa's transmission backbone in order to open the access pipe and be able to carry the LTE-A data traffic with enough end to end capacity.

Solving the above in addition to finding innovative and improved solutions for spectrum management will be the success key behind putting Lebanon back as leader in mobile technologies.



What network function virtualisation (NFV) will mean for service fulfilment

The main theme of this year's TM Forum Live! event was network function virtualisation (NFV), and what the OSS vendor community is doing to prepare its solution sets for the technology's introduction. Many virtual network function (VNF) proof-of-concept (PoC) exercises and trials are already underway worldwide. The introduction of virtualised network environments into mature commercial communications networks will create a physical-virtual hybrid network with a new set of challenges for communications service providers (CSPs). This comment summarises the current state of thinking surrounding NFV, what it will mean for the evolution of OSS and how far the industry is from introducing NFV in large-scale deployments.

Fundamental changes in OSS are required in order for CSPs to benefit from NFV

For service fulfilment system vendors, the introduction of NFV has a significant impact on the design of their traditional legacy fulfilment solutions, where a single stack can manage the fulfilment

of services that span legacy and virtual networks. However, in order to take advantage of the benefits of using a virtualised network – and to realise operational flexibility and service agility – fundamental changes to the way that OSS work together are required.

Orchestration layers in the OSS and network management systems are being introduced: these layers mediate and control the provisioning flow between the various software systems in order to enable 'zero touch' automation on network orders, as well as facilitate customer service orders. In addition, systems that were previously not required to work in real-time are being moved to a real-time state to allow provisioning flows and dynamic network changes. Finally, CSPs are focusing on a service-orientated deployment strategy for NFV (rather than a network- or platform-based strategy). As a result, service fulfilment functions will play a more important role than they did previously, and could act as a potential bottleneck in the automated provisioning process.



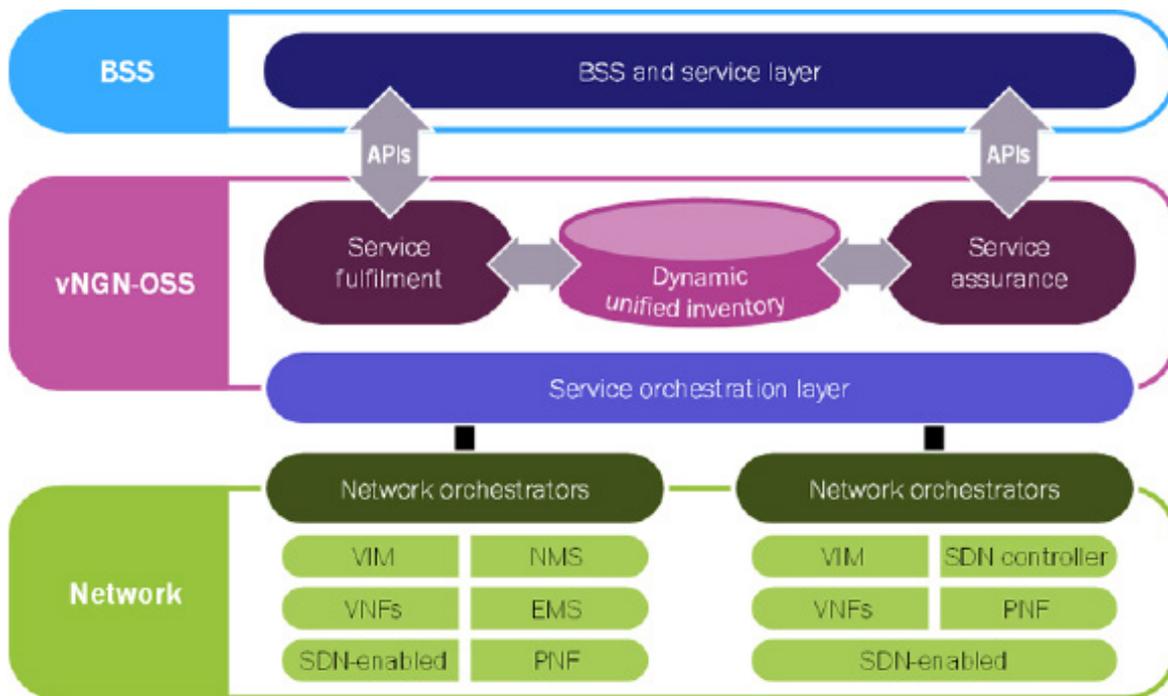
Dean Ramsay
Senior Analyst
Analysys Mason

We predict strong growth in the addition of virtualised environments to commercial networks

Commercial deployments of virtual networks remain limited and have not yet been proved for a scale of millions of subscribers and network functions. However, we expect strong growth in the number of virtual network deployments (see Analysys Mason’s Cloud computing, NFV and SDN: worldwide market sizing and forecast 2014–2018). During this initial growth phase, we have been speaking to many OSS vendors that are preparing for their service fulfilment portfolio to meet the challenges of the hybrid network, as well as to meet the demands of their CSP customers that increasingly need to provide next-generation digital services, complex bundled services and to operate within new and more complex value chains.

- Order management will be significantly impacted by the introduction of a service orchestration layer because many of the functions of the order management system will be superseded by a new, more-advanced counterpart in orchestration.
- ‘Zero-touch’ automation for OSS and network management functions will be essential in order to realise the perceived operational and service agility benefits of deploying a virtualised network environment.
- Network analytics will continue to be critical to the development of service-led solutions that can dynamically support rapid on-demand service creation in a constantly changing environment (in terms of design, planning, optimisation and (de-)provisioning).
- Inventory systems must become near real-time.
- Vendors must develop multi-domain, multi-vendor and

Analysys Mason is conducting a series of in-depth studies on the impact of NFV and software-defined networking (SDN) on the telecoms software market, including a focus on the service orchestration layer, how it will change the face of service fulfilment and what vendors must do to remain competitive.



Source: Analysys Mason

What the CSPs and vendors are saying

We met several OSS vendors that are involved in PoC trials with CSPs that are integrating real-world experience with the theories underpinning hybrid network environment service orchestration. Several common themes emerged that have an impact on service fulfilment and OSS as a whole.

- open solutions that can manage both physical and virtual network functions.
- It is increasingly important to have a strong connection between service fulfilment and service assurance – this will ensure end-to-end automation and orchestration.



The future of mobile broadband and the need for innovative spectrum management solutions

The importance of broadband for economic and social development is almost undeniable. This is evident from an ever increasing demand of high speed broadband access from the consumers, corporate and government entities, alike. Mobile Broadband is particularly important in this regard, because of its ease of access, mobility and ubiquity. Widespread availability of mobile broadband however, is crucially dependent on availability of sufficient frequency spectrum which is a scarce resource becoming "scarcer" in direct proportion with the increase in demand of mobile broadband.

According to GSMA, the number of mobile subscribers and mobile connections around the globe grew by 8.2% and 11% respectively during the period 2008 – 2013 pushing the mobile data traffic to 45 folds of its original level. The Arab states enjoyed even higher growth rates of 9.5% 13.2% respectively. The case of Saudi Arabia is even more dramatic with the mobile broadband service penetration increasing from 9.7% to 94.5% (CITC 2014 annual report)

during the same period. Analysts have attributed this rapid growth to the increase of competition and investments in mobile networks and a general scarcity of substitutable fixed services at competitive prices across the GCC region. Because of this trend, 3G/4G connections account for well over a third of total connections in the Middle East, today. In the United Arab Emirates (UAE), Saudi Arabia and Qatar, the figure is as high as 60% of the total, ahead of the European average", according to the GSMA.

All this growth, while good, is increasing pressure on the spectrum resources all over the world. In order to cope with this pressure and enable the desired level of growth in the mobile sector, it is absolutely necessary to implement evacuation of all commercial bands in use of government authorities and adopt innovative spectrum management solutions.

Telecom Regulators across the world need to educate their governments about the substantial economic benefits of releasing those frequencies for use



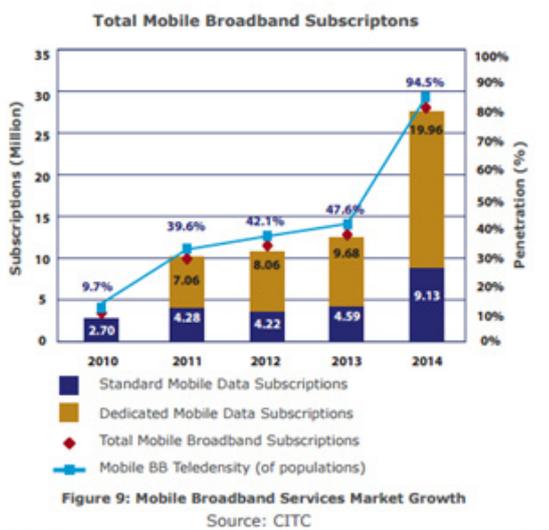
Hani A. Al-Mojel
Excutive GM, Technical and Radio
Spectrum
Mobily Telecommunication

of commercial mobile networks. For this purpose, tailor made Awareness program may be planned for all different stakeholders to bring home the importance of efficient use of spectrum resources for the country and the people.

Finally, the telecom world needs more spectrum. For example, GSMA estimates 600-800 MHz for Arab region by the year 2020. Besides, catering for this increase in demand of spectrum for the existing technologies, regulators also need to work hard with international organizations such as ITU, GSMA and SAMENA to enable allocation of spectrum bands for new technologies e.g. IMT (international Mobile Telecommunication) systems. In this regard, 800 MHz band is a good option since it is already deployed around the world in Mobile networks. Regulators need to expedite the process of allocation of this band to mobile operators. Besides the 800 MHz band, Sub 700 MHz, C-band (3.4-4.2 MHz), L band (1350 -1518 MHz and 2.7 – 2.9 MHz) are other main important bands that should be opened for mobile services in the near future. These bands are generally underutilized in all over the world and can easily accommodate mobile services through co-sharing assignment methods currently available and being used by some administrations. SAMENA, GSMA and

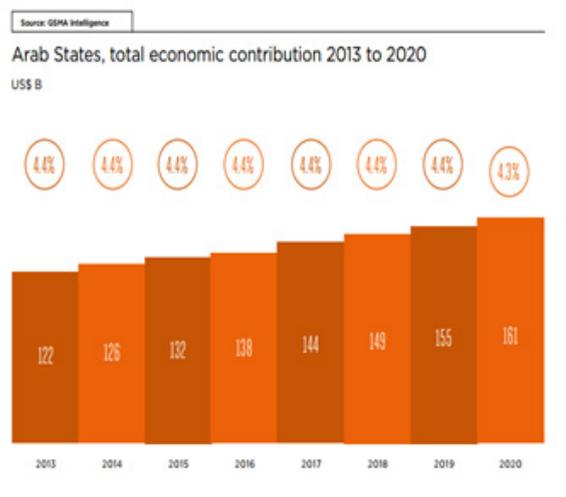
other significant international telecom organizations ought to collaborate with operators and regulators to ensure favorable outcomes in the coming WRC-15.

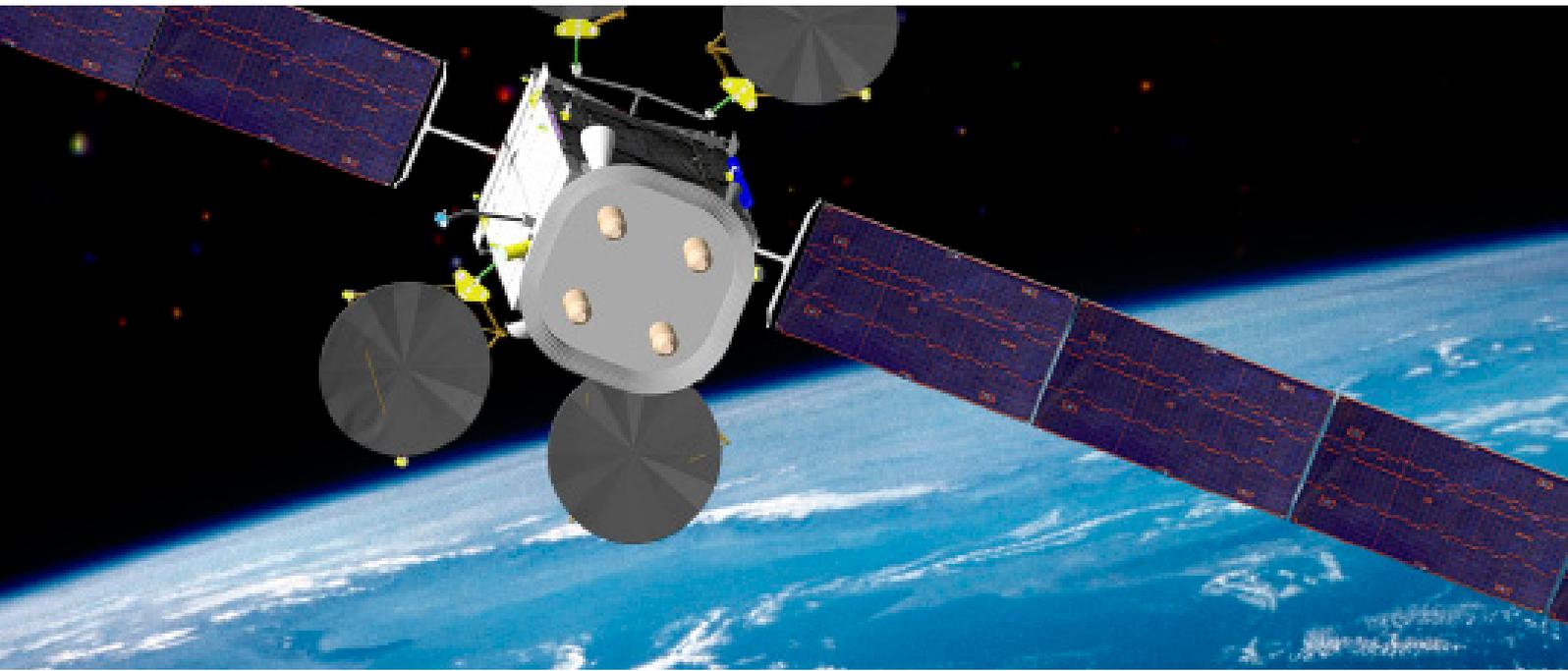
In conclusion, the importance of broadband especially mobile broadband is undeniable and the availability of sufficient frequency resources is indispensable for the growth of broadband services. The lack of awareness about the importance of mobile broadband and absence of efficient spectrum management methods is a significant hurdle for the development of these services. Launching of tailor made awareness programs by Telecom Regulators, for the government entities currently in possession of important commercial bands and adoption of innovative spectrum management techniques can help in resolution of this issue. All International and regional telecom organizations, regulators and operators ought to collaborate with ITU to ensure favorable outcomes in the coming WRC-15.



Telecom regulators in general and Arab Regulators in particular, need to review the methods currently used for assignment of commercial spectrum bands and modify them to encourage a more efficient utilization of the national frequency spectrum. Also, since the most administrations are already enjoying a very high tax income from the mobile operators, they should consider reducing the spectrum fees to enhance future investment in mobile broadband infrastructure. This will have direct positive impact on the ubiquity, quality and prices of mobile services in these countries. Studies should be conducted to evaluate the suitability of new spectrum management methods like spectrum trading and auction etc. to ease the increasing pressure on the existing spectrum resources due to suboptimal management and utilization. Assigning spectrum resources based on first come first served method is not an efficient allocation method any more. Regulators should periodically review the usage of spectrum resources by various mobile and other operators and redistribute them in a way that ensures efficient utilization of spectrum, expansion of coverage, improvement of quality of services and prevention of anticompetitive practices.

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▼ SATELLITE NEWS

SATELLITE UPDATES

AsiaSat 6 and 8 Growth Cut Short by Licensing Hang-ups

Asia Satellite Telecommunications Holdings Limited, or AsiaSat, reported that licensing approvals are inhibiting growth from its new satellites AsiaSat 6 and AsiaSat 8 during its 2015 interim results for the six months ended June 30. Combined with the challenge of excess capacity in Asian markets and flattening demand in some places, the company felt downward pressure on pricing that it expects will persist into the near future until that capacity is absorbed. "The first six months of 2015 were challenging for AsiaSat and the satellite sector as a whole. The company does not expect significant positive change in the market environment in the second half. Due to delays in licensing approvals, it is taking longer than expected to lease out the transponder capacity of AsiaSat 6 and AsiaSat 8 while the depreciation of both satellites will commence in the second half of the year," said Gregory Zeluck, chairman, AsiaSat. Zeluck added that, if the volatility of China's Yuan continues, it could have a negative impact on the second half of performance. Interest expenses arising from the AsiaSat 6 and 8 Ex-Im bank loans and the bank loan raised for the special interim dividend payment will impinge on the earnings of the company in the second half of the

year as well. Still, he described a positive long-term outlook. "Despite these challenges, we are optimistic about our prospects for the future, as we operate in one of the world's growth markets. We remain vigilant in developing effective business strategies in a rapidly evolving market, where AsiaSat, with its new capacity on line continues to be well-positioned to capture the region's various growth opportunities," he said. AsiaSat 9, the replacement for AsiaSat 4, remains on track for completion in the fourth quarter of 2016. Overall fleet utilization rate for the period ended June 30 was 72 percent, compared with 75 percent as of December 31.

Arabsat Broadcasts Ivory Coast Channel from BADR 4

Arabsat is now offering Radiodiffusion-Télévision Ivoirienne (RTI) across the Middle East, North Africa and Europe from its BADR 4 satellite, the company announced August 27. The operator began broadcasting RTI through an agreement with the public broadcaster. "Africa is a large continent and Cote d'Ivoire is one of the most fast growing states in Africa. We are thrilled to bring RTI to our viewers to enjoy a very original and native attractive African content," said Nabil Shanit, VP and CCO of Arabsat.



ISRO's Ninth GSLV Rocket Launches GSAT 6 Communications Satellite

The Indian Space Research Organization (ISRO) completed the ninth flight of the Geosynchronous Satellite Launch Vehicle on Aug. 27, carrying the GSAT 6 communications satellite. The mission, conducted from Satish Dhawan Space Center Shar (SDSC SHAR), Sriharikota, was the fifth developmental flight of GSLV and the third to carry the indigenous Cryogenic Upper Stage (CUS). ISRO used the GSLV-D6 mission to further test and qualify the upper stage. GSAT 6, separated from the CUS roughly 17 minutes after launch, and automatically deployed its two solar arrays after injection to Geostationary Transfer Orbit (GTO). The 2,117 kg GSAT 6 carries five S-band spot beams and one national C-band beam for strategic users. It is the 25th ISRO-built geostationary communications satellite, and the 12th in GSAT series. GSAT 6 will enter service following its ascension to GEO at 83 degrees east, the unfurling of its 6-meter antenna, and in orbit testing of communications payloads.

Qualcomm sells L-Band spectrum to Vodafone UK and Three UK

Following on from reports in June 2015 that the UK subsidiary of chipset manufacturer Qualcomm is planning to sell its wireless spectrum in the 'L-Band' 1452MHz-1492MHz range, two deals have now been struck for the frequencies. Qualcomm UK Spectrum (QUKS) has agreed to sell 20MHz of the spectrum to Vodafone Group's British unit, Vodafone UK, while Hutchison 3G UK (H3G UK), which operates under the 'Three' banner, will grab the other 20MHz. Both sales, Qualcomm noted, are subject to regulatory approval and other customary closing conditions, with all involved parties expected to shortly submit respective applications to transfer the spectrum to UK communications regulator Ofcom. Details of the terms of the sales have not been disclosed, though Bloomberg – citing unnamed sources close to the matter – has claimed that the two deals combined are worth approximately GBP200 million (USD313.8 million).

1,400 Satellites Projected to Launch Over Next Decade

An average of 140 satellites with launch masses greater than 50 kg will enter orbit by 2024, according to Euroconsult's new "Satellites to be Built & Launched by 2024," report. Of the 1,400 satellites over the next decade, the research firm expects governments from 60 countries will be responsible for 75 percent of the \$255 billion in revenues from manufacture and launch. In comparison with last year's forecast, the number of satellites is due to grow more than the market value over the decade. Euroconsult expects nearly 90 percent of the government market will remain concentrated in the 10 countries with an established space industry: the U.S., Russia, France, Germany, the United Kingdom, Italy, Spain, China, Japan and India. The other 50 countries engaged in space activities will launch twice the number of satellites that they did in the past 10 years, i.e. about 200 satellites. More than half of these spacecraft will be procured from foreign manufacturers as domestic industry capabilities mature. In the commercial space sector, Euroconsult anticipates 40 companies will launch a total of 550 satellites through the decade. Most of these satellites constitute replacements of the communications capacity currently in orbit. "The increase in satellite number would be significantly higher if two mega-constellation projects for small communications satellites were included in the forecast," said Rachel Villain, principal advisor at Euroconsult and editor of the report. "The 1,400 satellite count over the decade already includes 350 satellites to be deployed by 10 commercial constellations into low or medium Earth orbits for communication or Earth observation." Euroconsult estimates 80 percent of the commercial space market remains concentrated in geostationary orbit.

NASA Inaugurates SmallSat Technology with CYGNSS Mission

The University of Michigan recently started building a constellation of eight microsatellites for use on NASA's Cyclone Global Navigation Satellite System (CYGNSS) mission, which aims to improve hurricane forecasting. The mission, when launched in October 2016, will be the first in NASA's history

to make use of a constellation of small satellites, which have taken off in the commercial sector and are often affiliated with the "NewSpace" arena, but have seen little activity in government programs. With the technology seeing rapid maturation in the last five years, federal organizations now feel secure enough to employ SmallSat technology, which may offer major benefits to certain types of government missions. "Because you can fly a lot of them, things that change quickly are amenable to CubeSat science," explained Chris Ruf, CYGNSS principal investigator at the University of Michigan, which won the NASA contract to design and build the constellation in December 2012. "Extreme weather, storms, earthquakes, flooding, [and] hurricanes are all things that are getting looked at right now for future mission architecture studies." According to Ruf, the Department of Defense (DOD) and National Oceanic Atmospheric Administration (NOAA) are also looking into how to use satellites to lower costs and increase revisit time on satellite missions.

Eutelsat hails successful launch of 8 West B satellite

Delivered by an Ariane 5 rocket on August 20 from Kourou, French Guiana, the 5.8 tone satellite completed partial deployment of its solar panels within four hours of separation. The coming days will see three firings of the satellite's apogee motor to complete the climb to geostationary orbit, as well as full deployment of the solar panels and antennae. EUTELSAT 8 West B will enter full commercial service in early October from the 7/8° West neighborhood. The craft is intended to offer greater choice for over 52 million TV homes in the Middle East and North Africa occupied by Eutelsat and Nilesat satellites. It is equipped with 40 physical Ku-band transponders designed primarily to serve DTH TV markets in its target region and to increase capacity and in-orbit security at the premium video neighborhood. It will also introduce a C-band mission, with ten physical transponders connected to footprints covering the African continent and reaching west to South America. "The launch of EUTELSAT 8 West B opens a new chapter in the growth story of the leading neighborhood in the Middle East and North Africa," commented Eutelsat www.eutelsat.com deputy



CEO and chief commercial and development officer Michel Azibert. "We have gained the trust of market-leading media groups and service providers who look to 7/8° West to accelerate their growth. EUTELSAT 8 West B equips us to meet demand to broadcast more digital and high definition content to over 250 million viewers and gives us more coverage options, enabling broadcasters to target their audience."

Hispasat Expands European TV Distribution With Goonhilly Earth Station

Hispasat has reached an agreement with British teleport owners Goonhilly Earth Station (GES) to provide television distribution services across Europe. A transponder from the Hispasat 1E satellite will provide the capacity contracted over the next three years, which will be transmitted by means of one of the teleport antennas. The entire process chain of transmission has been set up and will be provided by GES. The addition of services from Goonhilly adds to the teleports that already offer a shared solution on Hispasat's 30 degrees west digital platforms. Hispasat offers audiovisual content producers means to transmit signals Direct-to-Home (DTH) or indirectly by transporting TV channels to cable head-ends. The operator enables transmissions in both Digital Video Broadcast-Satellite (DVB-S) and DVB Satellite Second Generation (DVB-S2). Goonhilly opened in 1962 and received the first transatlantic images broadcast over Telstar. It also broadcast numerous historic events to Europe including the first lunar landings. Currently, Goonhilly is open to commercial services and is fully operational as a teleport for satellite communications.

Eutelsat Maintains LATAM Momentum, KA-SAT Filling Up

Emerging markets, and Latin America in particular, are expected to be primary drivers of growth for Eutelsat Communications, according to Chairman and CEO Michel de Rosen. The satellite operator has four satellites pending launches by year's end — Eutelsat 8 West B, Eutelsat 36C, Eutelsat 9B and Eutelsat 117 West B — and over the next 18 months more than half of the company's new

capacity is devoted to Latin America. Eutelsat's results for fiscal year 2014 to 2015 reflect the first full year following its \$831 million acquisition of Mexican satellite operator Satmex, which has since been renamed Eutelsat America. Revenues for Eutelsat reached €1.476 billion, increasing by 9.5 percent, and Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA) stood at €1.132 billion. Looking forward, the company plans to continue building on its progress in Latin America, as well as in other emerging markets such as Africa. "Of our future growth drivers, the first is video, particularly in fast-growing markets, de Rosen explained during the company's July 30 earnings call. "The second is broadband and mobility that we will mainly address through selective investments in High Throughput Satellites (HTS) and payloads. The third is the strengthening and diversification of our footprint in targeted high-growth markets, specifically Latin America." Eutelsat's latest satellite, Eutelsat 115 West B, launched early in 2015 aboard a SpaceX Falcon 9 rocket. De Rosen described the capacity increase from this satellite as the most important of the fiscal year. The Boeing-built all-electric satellite requires seven to nine months to reach its designated orbital location at 114.9 degrees west. After Eutelsat 65 West A launches in 2016, the company will cover all of Latin America, de Rosen said.

Yahsat, Sevis Systems Validate 3G and LTE Mobile Backhaul on YahClick Platform

Yahsat and mobile backhaul technology developer Sevis Systems have successfully created an optimized cellular backhaul solution that facilitates the expansion of mobile networks across the Yahsat Ka-band footprint. The pre-tested backhaul solution is based on Yahsat's Ka-band system and Sevis' scalable 7000-series optimization platform. The integrated IP backhaul solution is mobile-network agnostic and can thus seamlessly integrate with any small cell 3G Iuh or LTE base station vendor used by the mobile operators and YahClick partners. Yahsat and Sevis' wireless backhaul solution also enables service options such as traffic offload and overflow via satellite. Yahsat's began pursuing an optimized satellite backhaul solution because of mobile usage patterns

trending toward an increasingly data-dominated mobile environment, which puts a considerable strain on cellular backhaul infrastructure, particularly in locations unserved or underserved by terrestrial networks. Yahsat and Sevis jointly conducted technical validation and interoperability testing on the YahClick platform, successfully demonstrating substantial bandwidth savings via voice and data optimization as well as improved performance via Transmission Control Protocol (TCP) acceleration, which boosts the speed of TCP-based applications including mobile Web browsing, file downloads, and Hypertext Transfer Protocol (HTTP) video streaming.

Lockheed Martin Successfully Tests Design Changes Of Orion's Fairing Separation System

Lockheed Martin engineers have successfully completed testing of design changes made to the NASA Orion spacecraft's fairing separation system—these changes resulted from data collected during Orion's first test flight on Dec. 5, 2014. A protective panel for Orion's service module is jettisoned during testing at Lockheed Martin's Sunnyvale, California facility. This test series evaluated design changes to the spacecraft's fairing separation system. A finished Orion spacecraft has three fairings, or panels, that protect the service module radiators and solar arrays from heat, wind and acoustics during ascent into space. For the purposes of collecting data during these tests, only one fairing was separated. The separation took about three seconds and the design changes tested were: New push-off springs that push on the fairing for a longer period of time to provide increased safety and reliability; As part of an ongoing mass reduction effort, the team used four crew module structural attachments instead of six; Star trackers, or cameras that provide positioning from the stars, are used for navigation on the spacecraft. The fairing separation system pulls off the star tracker covers which prevent contamination before launch, and this process was tested for the first time. In addition, these tests evaluated different pyrotechnic variances and higher load cases in order to prepare for Exploration Mission-1, when Orion is launched on NASA's new Space Launch System rocket. The team was



also able to collect shock data, which will be provided to the European Space Agency (ESA) to support their work designing, building and testing the service module. In fact, these same fairings will be used for service module acoustics and vibrate testing taking place at NASA's Plum Brook facility in Ohio later this year.

Telesat Soon to Order Telstar 18 Successor, Reports Q2 Earnings

Telesat expects it will order a previously announced replacement satellite by the end of this year. The new satellite would replace Telstar 18, which is currently in orbit at 138 degrees east providing coverage for the Asia-Pacific. Telstar 18 entered service in 2004 and has a 13-year lifespan. The satellite carries 18 C-band transponders and 10 Ku-band. The replacement to Telstar 18 would follow Telesat's progress with its other satellite project, Telstar 12 Vantage. "Our Telstar 12 Vantage program is on schedule at this point in time and we expect to launch the satellite toward the end of this year," Dan Goldberg, president and CEO of Telesat, said during the company's July 30, second quarter earnings call. "Telstar 12 Vantage, which will replace and expand upon the capacity and coverage of our Telstar 12 satellite is being built by Airbus and will be launched by Mitsubishi Heavy Industries. We expect to enter into an agreement before the end of this year for a replacement satellite for our Telstar 18 satellite." Goldberg said Telesat's fleet utilization stood at 94 percent during Q2 for North America, and 80 percent for international. From a revenue perspective, North America accounted for 81 percent of revenue, Latin America 9 percent, Europe, the Middle East and Africa (EMEA) region 7 percent, and Asia 3 percent. Telesat's upcoming Telstar 12 Vantage satellite will carry a mix of traditional regional beams and high throughput spot beams. Goldberg said the future Telstar 18 successor is likely to include some High Throughput Satellite (HTS) capabilities as well. Telstar 12 Vantage will be located at 15 degrees west, where it will cover Europe, the Middle East, South America, much of Africa, and some of North America. Goldberg noted interest among maritime customers for higher throughput services. He said Telstar 12 Vantage will provide high throughput capacity over the Mediterranean and high performance beams over the Caribbean and the North Sea.

VT iDirect Sets Up R&D Subsidiary in Ireland

VT iDirect, an indirect wholly owned subsidiary of Singapore Technologies Engineering (ST Engineering), has formed a wholly owned subsidiary, VT iDirect Solutions in Ireland. The new subsidiary is set up as a Research and Development (R&D) center, with a focus on building competencies in satellite cellular backhaul technology. VT iDirect expects this will complement its satellite-based IP communications technology, to help address a global growing need for mobile services. VT iDirect Solutions is set up as a Private Limited Liability Company (PLLC). Its formation is not expected to have any material impact on the consolidated net tangible assets per share and earnings per share of ST Engineering for the current financial year.

ViaSat Authorizes C-COM 1.2m Ka-Band Antenna

C-COM Satellite Systems' iNetVu 1.2m Ka-band vehicle mount antenna system has received type approval from ViaSat for use on the network that powers its Exede Enterprise service. The new antenna operates in Ka band but is field switchable to also operate in Ku band. The product is designed for use by broadcasters, Satellite Newsgathering (SNG), oil and gas exploration, and first responders, as well as for government and military markets. "The Ka-1202V system is the second iNetVu vehicle mount auto-deploy antenna system to have successfully passed all mechanical and Radio Frequency (RF) testing as required by the ViaSat auto-acquire terminal qualification process," said Bilal Awada, CTO of C-COM Satellite Systems. "We are pleased to be able to provide U.S. market customers with an affordable alternative solution for when they require a larger than existing 75cm Ka-band antenna." C-COM anticipates full production rollout with immediate availability next month.

Intelsat Tempers Down Disagreement Over SpaceX's Experimental SmallSats

Intelsat has tempered down a disagreement with SpaceX over the deployment of two experimental satellites in Low Earth Orbit (LEO).

SpaceX is planning to launch a constellation of approximately 4,000 SmallSats for telecommunications services, and plans to use six to eight test and demonstration satellites starting in 2016. The launcher filed an application with the United States Federal Communications Commission (FCC) in May for the first two demo spacecraft, MicroSat 1a and MicroSat 1b, along with confidentiality treatment requests for five related exhibits. On July 9, Intelsat filed an informal objection to the FCC, urging the agency to deny the SpaceX MicroSat 1 a/b application. The operator concurrently filed a Freedom of Information Act (FOIA) request seeking to obtain full copies of SpaceX's filings. Intelsat asserted that the information available about the two satellites was too limited for the operator to analyze how SpaceX intends to protect co-frequency geostationary operations, as well as avoid collision with geostationary satellites transiting through LEO during launch. Specifically, the operator said that SpaceX's confidentiality request hides "the kind of basic information that is routinely, and publicly, filed by other satellite operators." Intelsat said it needed to know beam parameters and orbital parameters in order to accurately analyze potential interference and, if interference is detected, identify or eliminate a SpaceX transmission as the cause. SpaceX's satellite mega-constellation plans were leaked on YouTube in January just days after OneWeb announced plans to build a network of roughly 650 LEO communications satellites with support from Qualcomm and the Virgin Group. In June Intelsat joined a team of companies investing in OneWeb, which will compete with SpaceX in the satellite domain.

Eutelsat Teams Up With Starburst Accelerator

Eutelsat is becoming a partner of Starburst Accelerator, a startup accelerator established in 2013 to stimulate growth in the aerospace industry by closing the gap separating new ventures from established companies, public organizations and venture capital firms. As the first corporate partner with an operator profile to support Starburst Accelerator, Eutelsat will strengthen the incubator's interest in startups developing services, applications and downstream technologies and will be part of the selection committee, joining experts from partners that



include Airbus, Thales, Hutchinson, Panasonic, Liebherr, Safran, and Air France-KLM. "As connectivity is becoming a major subject in terms of new services, a growing number of startups are entering this field. It is important for us to be able to connect them with one of our partners. We are now closing the loop of the aerospace supply chain," said Francois Chopard, founder of Starburst Accelerator. Starburst Accelerator provides young startups with a set of services enabling them to fast-track their growth, including support for business plans, interface with investors and industrial groups, office space and participation in regular workshops. The organization has initiated partnerships with university labs in Europe and is expanding this network in the United States

China's Long March 3B Launches Two BeiDou Satellites

On Saturday, July 25, China launched two satellites aboard a Long March 3B/ Expedition 1 rocket for its indigenous Global Navigation Satellite System (GNSS), BeiDou. The launch occurred from the Xichang Satellite Launch Center in southwestern China's Sichuan Province, with the satellites reaching their preset orbits in 3.5 hours, according to the center. This mission brings the number of BeiDou satellites launched to 19. The two satellites will join the 17th one, which was launched in late March, in the mission of testing a new type of navigation signaling and inter-satellite links, and also provide navigation services as a part of the network, according to the center. China launched its first BeiDou satellite in 2000, with civilian use of the system beginning in 2012. The July 25 launch was the 206th flight of China's Long March rockets.

Airtel Ghana Partners with Thuraya for Hybrid Coverage

Airtel Ghana and Thuraya Telecommunications have partnered to provide 100 percent coverage for Ghanaians through a combination of terrestrial and mobile satellite connectivity. Thuraya's satellite-based solutions will help bridge the digital divide both for individuals and businesses through an agreement with Airtel Ghana that gives people

living in rural and remote areas greater and clearer access to voice and data connectivity. Airtel has partnered with Thuraya to provide mobile satellite products and services across 17 countries in Africa. "This partnership demonstrates Airtel's commitment to lead the market by providing cutting edge, technology-driven solutions for the benefit of its enterprise and high-value customers," said Maxwell Dodd, director of Airtel Business.

Intelsat Says Future Satellites Remain on Track

Intelsat, in announcing its second quarter earnings results, affirmed that the satellites it has awaiting near term launches are still scheduled for when previously anticipated despite launch failures of both International Launch Services' (ILS) Proton and SpaceX's Falcon 9 rockets in recent months. "Our expected satellite launches from August 2015 through the first quarter of 2016 — Intelsat 34, Intelsat 29e, and Intelsat 31 — remains on track, even after accounting for disruptions in the launch sector. We expect that the successful entry into service of these satellites will refresh existing capacity and provide significant incremental inventory, supporting the growth

a diluted basis, for the three months ended June 30. The company reported adjusted net income per diluted common share of \$0.70 that same period. Intelsat's Earnings Before net Interest, Taxes and Depreciation and Amortization (EBITDA), stood at \$462.3 million, or 77 percent of revenue, and Adjusted EBITDA of \$473.4 million, or 79 percent of revenue, for the second quarter 2015.

SpeedCast Acquires Sait Communications, Gains Maritime Foothold in Europe

SpeedCast has signed a definitive agreement to acquire Sait Communications, a fast-growing maritime communications service provider in southern Europe. Sait Communications has been active in the maritime communications business for close to 10 years, and services about 2,500 ships, including many of Greece's largest shipping companies. SpeedCast anticipates the acquisition will significantly expand its exposure to the shipping sector, particularly in southern Europe where Greece is one of the largest maritime markets. Sait Communications has rolled out Inmarsat's Fleet Broadband service to



strategies of our media, network services and government businesses," said Intelsat CEO, Stephen Spengler. Intelsat reported total revenue of \$598.1 million and net income attributable to the company of \$60.2 million, or \$0.47 per common share on

close to 1,500 vessels over the past few years, and has more recently started providing VSAT broadband services. According to SpeedCast, the combined entity will be one of the largest service providers to the maritime sector in the market today, servicing more than



5,000 vessels with a wide portfolio of communications and IT services. The transaction is expected to close on July 31. Sait Communications is SpeedCast's second acquisition this month, following that of NewSat's teleport and satellite services business.

Media Networks Largely Done with SD, Eyes on HD, 4K and TV Everywhere

Pay-TV service provider Media Networks is shifting its focus primarily to HD, 4K and expanding the reach of television beyond the home. The company has close to 80 HD channels in Brazil and almost another 80 HD channels in the rest of Latin America. Going forward, the intention is to double the number of HD channels and lay the foundation for 4K. "Two or three years ago everyone was talking about HD. It was a reality in word and in trends, but not in offerings. Now HD is really a reality. The next steps we are seeing in terms of quality is, of course, 4K," Leandro Gaunszer, commercial director, LATAM and country manager, Brazil, Media Networks, told Via Satellite. "At the end of this year and the beginning of next year we are going to have an offering in 4K already for our clients." Latin America is a dynamic market for broadcasting, with video consumption on the rise and high profile events like the 2014 World Cup and the 2016 Olympics bringing lots of attention. Media Networks is one of the largest teleport operators in Latin America and supports large broadcasters, such as DirecTV and Claro TV, as well as a myriad of smaller players. Last year, the company expanded to Panama through a deal with Cable & Wireless, and also began providing services for Qualy TV, a newer player with operations in Guatemala, Nicaragua, and Costa Rica. The company also signed CNT in the Galapagos. Gaunszer said the momentum for higher quality broadcasts is on the rise.

DISA Awards TeleCommunication Systems \$14.2 Million for Managed Satellite Services

The United States Defense Information Systems Agency (DISA) has exercised

its second year task order option worth \$14.2 million for TeleCommunication Systems (TCS) to continue to provide Ku-band satellite bandwidth, terrestrial support and 24-hour support services for the U.S. Marine Corps' Tactical Satellite Communications Network. The task order came through the joint DISA/General Services Administration (GSA) Future Commercial Satcom Acquisition program. TCS is providing the Marine Corps commercial satellite services to various terminals in order to extend the Marine Corps Enterprise Network for deployed users. The additional \$14.2 million funding covers the period from Aug. 1, 2015 through July 31, 2016. DISA and GSA are managing this procurement through the \$2.6 billion Custom Satcom Solutions (CS2) contract vehicle, of which TCS is one of eight prime contract awardees.

Yahsat Signs New Service Partnership with ClickSat in Pakistan

Yahsat has signed an agreement with new service partner Clicksat, one of the fastest growing satellite solution companies in Southern Asia, to distribute its Internet broadband service, YahClick, to users across Pakistan. The partnership signing follows the official YahClick Pakistan launch on Monday, June 29. Users will be able to connect to satellite broadband anywhere in the country using a compact satellite dish and modem, including areas where terrestrial infrastructure is currently not available. Clicksat will deliver YahClick's broadband service, as well as technical, operational and customer care services. "In the past, satellite broadband internet connection was regarded as a luxury for the tech savvy people, however it is now critical technology for anyone requiring fast and reliable broadband services. Economic growth in rural communities is being hampered because there is little or poor access to the internet, and YahClick addresses these issues by being a cost effective, and versatile product that suits consumers, SMEs and corporations requiring reliable, fast internet access in untapped and underserved areas of Pakistan," said Nadeem Younes, CEO of Clicksat.

Telefonica Launches New Video Service through Ka-Band Satellite Internet

Telefonica Business Solutions, through its wholesale business unit, has launched a new Internet service for satellite video transmission in Ka-band through Media Networks' platform (a part of Telefonica). This service was used during Mexico's federal elections last June and in the FIFA Copa America 2015 held recently in Chile. In both cases, the transmission is performed through the use of five dedicated channels of 2 Mbps each. This solution, designed for television and broadcasting industry, has enormous potential to meet the needs of the media, because it provides live broadcasts from anywhere within the areas of coverage. This makes it an ideal solution for breaking news coverage, sports and other events. The service provides maximum capacities of 18 Mbps downstream and 3 Mbps upstream.

ULA Delta 4 Launches WGS 7 Satellite with New Advanced Digital Payload

United Launch Alliance (ULA) orbited the U.S. Air Force's seventh Wideband Global Satcom (WGS 7) satellite July 23 aboard a Delta 4 rocket. The satellite features a payload upgrade from prime contractor Boeing that enables 17 percent more secure communications bandwidth than its predecessors. WGS satellites provide military communications in X and Ka-band for U.S. and allied forces. The next three WGS satellites will incorporate Boeing's advanced digital payload design, which doubles



payload bandwidth and further improves connectivity. ULA launched the satellite aboard a Delta 4 Medium-plus (5,4) configuration Evolved Expendable Launch Vehicle (EELV). The rocket used a single ULA common booster core powered by an Aerojet Rocketdyne RS-68A main engine, along with four Orbital ATK GEM-60 solid rocket motors. An Aerojet Rocketdyne RL10B-2 engine powered the upper stage with the satellite encapsulated in a 5-meter-diameter composite payload fairing. ULA's next launch is the Atlas 5 MUOS-4 mission for the U.S. Navy, scheduled for Aug. 31 from Space Launch Complex-41 at Cape Canaveral Air Force Station, Fla. The next WGS satellite is scheduled to launch in late 2016.

SES, Cable MSO Armstrong Launch Ultra-HD Trial

SES announced it has initiated a live and linear Ultra-HD trial with cable Multiple System Operator (MSO) Armstrong. From its headquarters cable lab in Butler, Pa., Armstrong is testing SES's camera-to-screen Ultra-HD ecosystem first unveiled in April 2015. SES' solution combines broadcast and IP technologies in a fully managed, scalable service. The solution combines satellite with the multicasting capabilities of Data Over Cable System Interface Specification (DOCSIS) 3.0, the advanced transmission standard in use by Armstrong and other leading cable systems today. "The outcome of these tests will support progress toward our objective of accelerating the roll-out of linear-live Ultra-HD," said Steve Corda, vice president of business development for SES in North America.

Myanmar Broadcasting Law Nears Completion as Satellite Plans Mature

The Myanmar government is soon to



pass a new broadcasting law designed to open up the country's media industry and encourage the distribution of new services. The law is intended to demonstrate Myanmar's commitment to infrastructure development, especially for telecommunications. "The broadcasting industry is moving very fast. From an economic, commercial, national prestige, and national security point of view, everything points toward satellite and the demand is increasing. We have now given the satellite project top priority on our agenda and are working on getting this set up in the near future," said Myanmar's Deputy Minister, Ministry of Communications and Information Technology, H.E U Thaug Tin. Myanmar plans to launch its own domestic satellite within five years time.

Skynet 5A Satellite to Reach Asia-Pacific by Autumn

The 67,000km move of Airbus Defense and Space's Skynet 5A satellite from 6 degrees east to its new position at 94.8 degrees east is on track to arrive this autumn. Airbus Defense and Space announced the relocation at the SATELLITE 2015 Conference & Exhibition in March earlier this year. The move boosts the company's capability to provide protected and secure military Satcom services to allied governments in the Asia-Pacific region. The relocation will extend the Skynet constellation coverage and services from 178 west to 163 east, including the Indian Ocean and Western Pacific region. This will provide near-global military X-band and Ultra High Frequency (UHF) coverage, expanding core service reach for the U.K. military and augment coalition capabilities in the region. Airbus Defense and Space owns and operates the nuclear-hardened Skynet X-band satellite constellation of eight satellites and the ground network to provide all Beyond Line of Sight (BLOS) communications to the U.K. Ministry of Defense. The contract also allows other NATO and allied governments such as members of the five-eyes community (besides the U.K., the U.S., Australia, New Zealand and Canada) to use the Skynet system to augment their existing services. Airbus Defence and Space also leases the X-band hosted payload on Telesat's Anik G1 satellite, which covers the Americas and parts of the Pacific including Hawaii and Easter Island.

ANATEL Approves Blue Sky Network's HawkEye 7200

Blue Sky Network (BSN), a global provider of satellite tracking and fleet management solutions has gained certification from Anatel, the Brazilian national telecommunications agency, for its HawkEye 7200 (HE7200) portable Iridium satellite tracking solution. According to Brazilian regulations, telecommunications products must have a certificate of conformity issued by a designated certification body indicating that they comply with the country's regulatory requirements. Anatel homologation is also required. BSN is now able to offer the HE7200 in Brazil. The HE7200 tracking solution is completely self-contained with a rechargeable Li-Ion battery, built-in antennas, and a Global Navigation Satellite Systems (GNSS) chipset. The unit has a quick position-alerting button, hosts an integrated Bluetooth capability, and together with the BSN HELink App, will allow iPhones or iPads



to communicate through the Iridium satellite network. All of BSN's products are integrated into its SkyRouter cloud-based back end Web portal, where tracking and communications as well as device management are controlled and viewed.



ITU WRC 15 – Position Statement



UHF-Band 470-694MHz

GROWING DEMAND FOR BANDWIDTH AND THE NEED FOR MORE SPECTRUM IN THE SAMENA REGION

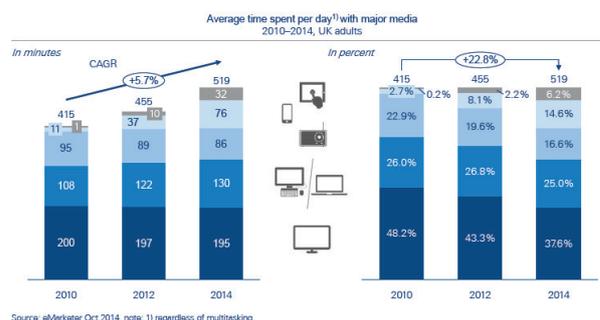
SAMENA Council

- SAMENA Council Is supporting a co-primary mobile allocation and IMT identification in the band 470-694MHz in the Region 1 during the ITU-R WRC-15
- Is inviting policy makers from the region to adopt the allocation of this band (470-694MHz) in the Region 1 in order to simultaneously facilitate the adoption of the innovative delivery of broadcasting content using LTE-Broadcasting and release extra capacity for mobile broadband services using LTE-Advanced.

Globally, mobile data traffic doubled between 2012 and 2013. The increasing number of LTE deployment is opening a whole new landscape of users' applications and revenue opportunities for operators. For the Middle East and Africa, Cisco projects that mobile data traffic will grow 14-fold from 2013 to 2018, and that video traffic will be account for 76% of mobile data traffic in the region by 2018, compared to 50% at the end of 2013. The consumption of the content is evolving towards non-linear reception (terrestrial broadcasting) and towards mobility for example as indicated in the figures hereafter.

Sub-700MHz band could be re-farmed to adapt to this evolution of the broadcasting services. ATDI study¹ demonstrated in October 2014 that LTE broadcast (LTE-B) re-using mobile networks sites would be an efficient way to

deliver TV content while saving prime UHF spectrum that could be reuse for the other mobile broadband services everywhere including in sparsely populated areas. The Sub-700MHz band would deliver high quality, wide area mobile broadband services including in countryside areas and deep inside buildings. The 700 and 800MHz UHF bands is considered to be of great importance when it comes to launching latest mobile broadband services, particularly in less dense populations. Regulatory authorities have been allocating these spectrum bands for mobile broadband in many European countries (e.g. Germany and France). Moreover, the sub-700MHz band could efficiently re-use 700MHz and 800MHz cell sites currently being deployed, for LTE broadcast (LTE-B) and LTE Advanced (LTE-A) services. Finally, it is also important to note that in order to execute a smooth shift for both terrestrial broadcasting and mobile services, the procedure of preparing a portion for mobile broadband utilization will take time and require a clear regulatory framework and roadmap.






ITU WRC 15 – Position Statement



L-Band 1427-1518MHz

GROWING DEMAND FOR BANDWIDTH AND THE NEED FOR MORE SPECTRUM IN THE SAMENA REGION

SAMENA Council

- Is supporting a primary allocation to mobile and IMT identification in the band 1427-1518MHz during the ITU WRC-15
- Is inviting policy makers and administrations from Middle East and North Africa to pursue all necessary efforts to make the 1427-1518MHz band available for SDL to allow mobile network operators to offer innovative mobile broadband services

Globally, mobile data traffic doubled between 2012 and 2013. The increasing number of LTE deployment is opening a whole new landscape of users' applications and revenue opportunities for operators. For the Middle East and Africa, Cisco projects that mobile data traffic will grow 14-fold from 2013 to 2018, and that video traffic will be account for 76% of mobile data traffic in the region by 2018, compared to 50% at the end of 2013. This will increase the asymmetry of traffic (downlink vs. uplink traffic) and require more spectrum for downlink than for uplink.

The frequency range 1427-1518 MHz is currently being auctioned for commercial IMT services across different regions globally (i.e. Europe - Japan). Moreover without waiting for the ITU WRC-15 outcomes, European Commission just decided to mandate the release of 1452-1492MHz

spectrum for SDL throughout the EU. This decision was approved by the EU member states in March 2015 leaving to Member States 6 months to make this portion of the L-band available for the SDL use. Last but not least, ASMG has decided to support the identification for IMT of the band 1452-1492MHz.

The 3GPP standard for the L-band already exists: 3GPP Band XXXII. The band can then be used in a near foreseeable future but a clear outcome at the ITU WRC-15 on the use of this band will allow national regulators to make the band available for IMT services and operators to benefit from a dedicated band for downlink. SDL in 1452-1492MHz is particularly relevant to Middle East and North Africa (MENA) countries where downlink data traffic is booming and where the harmonization and use of L-Band SDL can generate substantial economic and social benefits reaching a net profit value of \$26bn according to Plum Consulting study in 2012. In many countries the cost of making the band available for IMT services is expected to be low in particular for the 1452-1492MHz band because there is currently little use of the band.



#304, Alfa Building, Knowledge Village, PO. Box: 502544, Dubai, UAE.
Tel: +971-4-364-2700 | Fax: +971-4-4369-7513

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