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# SAMENA TRENDS

EXCLUSIVELY FOR SAMENA TELECOMMUNICATIONS COUNCIL'S MEMBERS

**BUILDING DIGITAL ECONOMIES**

A SAMENA Telecommunications Council Newsletter

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Jumeirah, Mina Al Salam  
Dubai, UAE

# International Mobile Roaming: Operators' Innovative Solutions vs Consumer Usability



For telecom operators, international roaming demands much careful balancing of roaming rates, quality of service, security, and transparency of information for the consumer. It requires much to keep this once-highly profitable revenue stream still relatively profitable. Both regulatory and customer usability trends in international roaming over the past few years have continually pointed to new strategy requirements for the operators, clearly indicating the changes in business rules.

Keeping service usability and transparency high in the eyes of the customer, while keeping the roaming business profitable, is a major challenge. Steps taken by telecom operators in introducing area-wide roaming innovations, suited to the needs of customers within a specific "one-market" geographical area, and successive price decreases have visibly impacted profitability. To the end-user's advantage, innovative roaming packages created by operators all around the world speak of significant developments carried out in the form of reduced-cost roaming plans, bundled roaming services, new packaged services, and new transparency measures to keep the customer better informed of service costs.

Innovations introduced by telecom operators also include roaming products with flat daily rates and multi-service packages, intelligently designed rate models adapted to end-users' network profiles and lifestyles, and, for corporate customers, their business profiles and communication needs. To this effect also, "one-rate" service bundles have been launched, promising an experience similar to that in the home market while roaming in other markets within a specified geographical boundary. A large percentage of operators, in this regard, as a basic innovation in roaming, offer voice bags that allow for certain number of calls to be made for a fixed price or specific destination to be accessed within a fixed period of time, among other features.

Furthermore, some operators' new data roaming packages aimed at the enterprise sector have made international mobile data simpler to use and affordable for businesses. Many of such business-centered roaming

innovations are designed for simplicity in setting up, predictability in costs, flexibility that suits user profiles, and ease of understanding.

Among other factors, a large part of the enhancements introduced to improve user usability may be linked to operators' initiatives such as the Data Roaming Transparency Schemes. This transparency aspect of roaming is particularly important for the customer, with the mobile industry fully acknowledging and addressing the demand for improvements in favor of the end-user.

While operators remain in search of new roaming innovations, for example, for customers situated on national borders with cross-border traveling and communication requirements, operators also realize the fact that various challenges have to be overcome along the way. That is, both for national security and revenue assurance purposes, undetected roaming needs to be mitigated. Similarly, the issue of taxation in all its relevant forms within the context of international roaming needs to be addressed.

With time, as is evidenced by the loss of roaming revenues, the process of commoditization is increasing. Thus as operators reconsider and realign their relationships with OTT players and end-user device makers, there is no denying of the fact that operators continually require a sustainable investment strategy on new network technologies, and must also complement this strategy with a value-proposition that will help them better commit to developing and exercising their role as enablers and not as simple network operators. Doing so will require an elevated level of dialogue within the industry, in close communication with policy-makers and regulators.

Roaming is an essential part of the need for creating a better connected world, and for setting a foundation of a digitally developed progressive economy. In this regard, it deserves the attention of all the stakeholders that international roaming, while meeting customer usability needs, also fulfills investment requirements of telecom operators.

Yours truly,



**Bocar A. BA**  
Chief Executive Officer  
**SAMENA Telecommunications Council**



**Mr. Tarig Rahamtalla**  
 Vice President,  
 Sudatel  
 Chief Executive Officer,  
 Espresso Telecom Group



A track record that spans 20 years, influencing, advising and driving strategic financial direction for diverse, high-profile global conglomerates. Proven expert ability to translate business and legislation requirements into strategic and operational objectives while maximizing revenue. Played a key role in the successful consolidation of Sudatel Group into a single global entity. Strong accounting background which honed my executive leadership abilities, as a result I have become fully adept at high-volume budget setting and management within global conglomerates including Accenture, Arthur Andersen, and Marriott International.

As a Strategic Leader, I am expert in applying acute knowledge to strategic planning and forecasting as I successfully established new Revenue Assurance Department for Sudatel Group. Spearheaded rigorous evaluation of West African subsidiaries on behalf of Sudatel, resulting in significant financial savings made throughout the company's consolidation process. Developed and implemented a cogent financial system for the Universal Service Administration Company (USAC), and devised highly effective forecasting tools for Accenture. Through tactical leadership, I streamlined business operations to drive growth, increase efficiency and bottom-line profit.

My strong financial management career enhanced through consistent achievement of success in diverse roles at numerous locations within the US and the Middle East. Exceptionally conversant with complex global regulatory, compliance and reporting requirements and practices including IFRS, US GAAP, and SOX.

Bachelor of Business Management from Cairo University (Khartoum Branch), Master in Accounting Controllershship from Strayer University in Washington DC, Degree in Forensic Accounting from George Town University in Washington DC, Bachelor in Revenue Assurance from Global Revenue Assurance Professional Association in Chicago, USA, Blue Ocean Strategy from Insead University in Fonatinblue, France, Finance for Senior Executives certification from Harvard Business School in Boston USA.

Q: Please describe your current business focus as one of the region's recognizable telecom brands.

A: Espresso formally established a corporate office in 2007, operating in the heart of Dubai. We are regulated by the Dubai International Financial Centre (DIFC), and we are an African Telecommunication and information services company. We currently hold operations in 3 West-African countries – Senegal, Mauritania, and Guinea-Conakry, serving over 4M customers. Even though we are one group, for strategic reasons, each OpCo operates under its brand – Espresso Telecom in Senegal, Chinguitel in Mauritania and Intercel in Guinea-Conakry.

The company main focus is to keep enhancing our network quality of service. Hence, delivering a better experience to our customers and the whole community. Even though we are behind our main competitors regarding coverage, we keep pushing boundaries by upgrading/enhancing existing ones and gradually expanding in strategic regions/areas. Keeping always in mind our ultimate goal, which is improving our people's life – being a 100% African company, we are highly committed to our community. To summarize, we have been working hard to deliver the best quality – fixing the basics while still leveraging products/services which are relevant to our market.

Q: Given the innovative technology and business solutions in the industry and the expanding broadband economy, what is your perception of where the telecom sector is headed and how strategically equipped are operators to create new value for themselves?

A: Operators have been taken by a storm with the digital revolution that they helped to enable: over-the-top players have very quickly occupied a significant space in the lives of telecom users and have, dangerously, fueled the notion that telcos might move closer and closer to becoming utilities: fundamental in everybody's lives, but unable to create new value in and by themselves. Telcos need to be selective in choosing where to dare and create their digital solutions, spotting local, regional gaps that give them an advantage that cannot be easily replicated by some ambitious entrepreneurs in a garage start-up thousands of miles away. New value creation will come from painstakingly seeking sensible adjacent territories, and finding them will demand a lot of cautious experimentation.

Nevertheless, broadband has already reshaped the telecommunication environment by enabling technologies that once seemed so distant from reality. Projects such as Smart Cities, E-Government, and Mobile Payment are only a few examples that show where the market is heading to and what is already possible to do. We, as operators, should be partnering with our peers to do it collaboratively and more efficiently, sharing knowledge and capabilities. By doing it, we can all benefit from it and most importantly, be able to deliver innovative, quality-driven and sometimes even life-saving services for the world.

Q: In your opinion, what are some of the most critical factors that now define the success of telecom service providers?

A: State-of-the-art network equipment and hardware have become ubiquitous, accessible for even the smallest telco providers. The softer ingredients that come on top on that core structures are, nevertheless, still very diverse: customer experience, product design, distribution, innovative solutions... The operators that get them right will retain the edge against commoditizing pressures taking place on basic communication services.

Q: What are some of the technology and customer-centric initiatives that you as an operator have embarked upon?

A: Espresso Telecom operates high-speed networks over 3G. We are bringing broadband services to Africa. Our connection software immediately connects you to the fastest data speed available, whether this is GPRS, EDGE, 3G or WiMAX. The company has been building and extending networks across all our markets as we know that demand for internet and data access will increase. Our vision is to bring people together, and our networks allow rural communities to be connected. Our advantage is borne from the use of CDMA technology that allows for better geographic coverage. This has allowed us to bring telecom and internet services to more people than was possible before.

Q: What are your views on net neutrality, especially on telecom operators' need to reach out to as many data consumers as possible, and to generate sustainable revenues?

A: Over-the-top players have managed to reach billions of customers in the back of infra-structure rolled out by telecom operators during decades of operation. Finding a mechanism to allow them to participate in the extraordinary CAPEX required to keep that infra-structure going, as more and more data is consumed, can be a good idea. The discriminating aspect of non-neutrality, however, in which few companies risk buying special lanes for users to access only their services, is a sensitive issue that still needs to be further debated and assessed with society, telcos and internet players at large.

Q: How has the telecom industry helped create a framework for the achievement of the 17 Sustainable Development Goals of the UN, and what role do you envision playing in their fulfillment, both individually and collectively?

A: I would say that telecommunication is one of the few industries that has immensely contributed to the world/human development in the last decades. In the region where we operated particularly the fingerprints of telecommunication, and it is a contribution to the development of our people, it is very evident. I can give

an example of already seven sustainable developments goal already telecom playing a considerable role in establishing them, but overall, Telecom services, and the unlimited range of digital services that they enable eliminate friction from simple human transactions and empower a whole new generation of entrepreneurs and economic agents. Suddenly, populations that had been until very recently deprived of basic mechanisms to have access to payment systems, information, education, health services and many other life-changing services at their fingertips. Their productivity gets dramatically increased and, as a whole, they immediately move more quickly and surely to overcome poverty and find a relevant place in the global economy.

It is a responsibility for telecom to lead the way in establishing these goals, and we have seen the real positive impact in how people live and work in the regions we operate. Which, at the end of the day, brings us personal fulfillment and proud of what we have achieved so far and foremost, give us the strength to keep going and excel our limitations.

Q: How have trends in 4G and considerations of 5G helped shape your new business priorities?

A: 5G is still very nascent and needs to be properly deployed and scaled-out before it becomes a viable option for some of our markets. 4G is the immediate frontier to be conquered in practice, but we want to be careful not to let the pursuit of 4G become a hindrance to the solid establishment of a high-quality 3G footprint.

Q: Please share one final view on what truly symbolizes your ambitions and contributions as a telecom operator of the future.

A: We firmly believe our culture and core values are the sources of competitive advantage. We will continuously reinforce our culture by providing our people with guidance on how they can demonstrate these core values every day. We keep improving our processes, organizational structures and performance management measures to promote the virtues of our culture. Our core values drive our business performance.

Our ultimate goal is to be leader in digital communication and technology to serve our community and enhance/

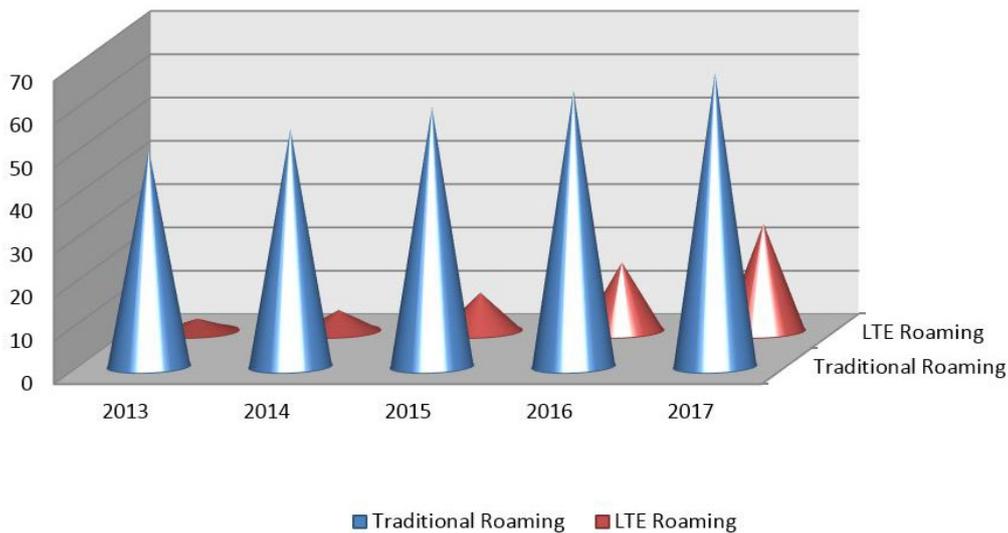


facilitate their lives. And we can only achieve it by empowering and involving our collaborators in each and every important decision that we take. We want to be known as a responsible and innovative business, and we are determined to lead by example in the market in which we operate.



## ▼ ROAMING REVENUES

**Trend in Worldwide Roaming Revenues (US\$ Billion)**



**Source:** Data approximated based on analysis by Visiongain, presented in analysis by Deloitte.

**Research Note:**

Telecom operators understand that the concerns relating to the regulation of international mobile roaming have revolved around pricing issues, especially when the EU experience is taken as a reference. However, the complexities relating to international roaming need to be appreciated and, fortunately, are being recognized by regulatory authorities. All regulatory measures must remain attentive to the need to avoid unintended consequences for the mobile users, the governments themselves, and the telecom operators, especially. The sustainability of business should occupy as much space in the minds of the regulators as other factors; and international roaming is a significant part of ensuring such sustainability.



## MEMBERS NEWS

### MEMBERS UPDATES

عمانتل  
Omantel

#### Omantel lauds Marseille aid in colossal cable project

Oman Telecommunications Co. SAOG — known as Omantel — announced recently in Muscat the completed submerging of its 25,000-km cable system in Marseille, France, successfully connecting Hong Kong to Singapore, Africa and Europe, all via Oman. With the project's "landing," the top telecom provider for the sultanate has created a significant shortcut between Europe and the Far Eastern nations. Omantel's CEO Talal Said Al Mamari described the city of Marseille as an easy choice due to its advantageous geographical location and position as a major port of trade and physical gateway into Europe. "This achievement would not have been possible without the support of the city of Marseille," Al Mamari said. "To land a cable of this magnitude requires permits and regulatory approvals from many areas within the government. Our experience of Marseille is a city that is professional, business oriented and one that welcomes foreign investment." With its AAE-1 submarine cable project, Omantel is the first company to provide such connectivity between the far-flung continents. The company relied on its French subsidiary, Omantel France, to

oversee the operation. The new platform will also alleviate logistical overhead for global network operators, creating a new model of neutrality for entrepreneurs, with a data center in Marseille operated by Interxion, a company providing colocation data center services across Europe. "[W]e are thrilled with the successful execution of this project," Sohail Qadir, Omantel's wholesale VP, said. "The AAE-1 cable represents a further step in our vision to become a truly global telecommunications player. Throughout history Oman has always been a gateway to the region, facilitating trade and commerce from East to West and West to East. At Omantel, we aim to continue our nation's proud tradition, this time facilitating the transfer of information in this new digital age."

STC  
الاتصالات السعودية

#### STC reports Net Income of SR 2.4 billion; an increase of 22%

Saudi Telecom Company (STC) announced the company's preliminary financial results for the period ending at 31 March 2016 (3 months). In accordance with the approved dividend policy for three years starting from the 4th quarter 2015 which was announced on 11 November 2015,

and have been ratified during the General Assembly Meeting on April 4th 2016, STC will distribute a total of SR 2,000 million in cash dividend for Q1 2016, representing SR 1 per share. Commenting on the results, STC Group CEO, Dr. Khaled H. Biyari, stated: "The financial results achieved for the 1st quarter of 2016 reflect the efforts being made to constantly evolve, improve and develop the company's strategy and operations both domestically and internationally. Revenues from services increased 2.3% during the 1st quarter compared to the comparable period last year. We will continue to invest in our employees, focus more on customer satisfaction and enrich their experience as part of STC strategy, by deploying cutting-edge technological resources, and investing in technology & innovative solutions that shall enable the Saudi society to elevate to new horizons in the new telecom world. This will be in parallel with the country's transformation program which support the expansion in the new digital economy, and will enable speedy processing of all transactions, which will be more convenient for the society and contribute to improving the overall productivity. In light of the increasing importance of Telecom and technology, STC will continue to adopt initiatives to invest in unconventional telecom infrastructure through investments in networks and associated systems in order to allow smooth transformation to provide highly secured cloud computing services. All this will happen through long term productive partnerships with government institutions which will create an environment that shall encourage investments and eventually serve the end user and society in the light of increasing importance of information technology and Telecom." With regards to international operations, the 1st quarter witnessed revenue growth of 3.7% in the controlled international subsidiaries compared to same period last year. Domestically, the 1st quarter witnessed revenue growth of 2.9% from domestic operations compared to same period last year. As STC continues with the introduction of innovative services and customized offers that encourage mobile usage for both post-paid and pre-paid "SAWA" customers. STC's continues with the deployment of the fiber optic network for both business and residential. During the 1st quarter, FTTH Customer base increased 39.5% compared to the same period last year,

and 10.4% compared to the immediate previous quarter. In addition, fixed broadband customer base increased 17.5% compared to the same period last year, and 2.3% compared to the immediate previous quarter. Enterprise business unit overall revenues increased approximately 17% during the 1st quarter compared to the same period last year, driven by the increase in Business sector data services revenues and associated services during the quarter.



### Omantel and Ericsson sign managed services deal

Ericsson has announced the signing of a four-year managed services contract with Oman Telecommunications Company (Omantel), the country's incumbent fixed and mobile operator. Under the deal, the Swedish vendor will operate and maintain Omantel's network as the sole managed services supplier. The operator has also



selected Ericsson to provide its real-time customer value management (CVM) service, enabling it to deliver targeted, personalized campaigns with advanced capabilities focused on enriching customer experiences and driving cognitive marketing, thereby assisting Omantel in improving revenues, reducing churn and enhancing campaign effectiveness. 'With the deployment of Ericsson's customer value management services, together with a long-term managed services partnership, Omantel will be able to enhance network and services capabilities while grasping the new opportunities created by the Networked

Society with innovative services that will enhance the customer experience,' commented Jean-Claude Geha, Vice President and Head of Managed Services at Ericsson. Omantel's CEO Talal Al Mamari noted that the firm's collaboration with Ericsson signals its 'accelerated approach toward network investment, enhancement and upgrades across the Sultanate, both for retail consumers and corporate clients'.



### PCCW Global and Keppel T&T collaborate on an international carrier exchange in Hong Kong

PCCW Global, the international operating division of HKT, Hong Kong's premier telecommunications service provider, has entered into a long-term collaboration agreement\* with Keppel Data Centers Holding Pte Ltd, a joint venture between Keppel Telecommunications & Transportation Ltd (Keppel T&T) and Keppel Land Limited. The two companies will co-develop and market an international carrier exchange in Hong Kong, which offers connectivity-related managed services to facilitate interconnects. The collaboration leverages PCCW Global's extensive global network connectivity and marks the expansion of Keppel T&T's data center footprint to Hong Kong. Located in a prime business district on Hong Kong Island and a 40-minute drive from Hong Kong International Airport, the international carrier exchange will feature 1,000 square meters of high quality telecommunications center space upon its expected completion in the fourth quarter of 2016. It will be fitted out to Tier III specifications with 2N power redundancy that ensures service availability of up to 99.982%. The international carrier exchange is situated in the same building as the Hong Kong Point of Presence (PoP) for the new Asia-Africa-Europe-1 (AAE-1) submarine cable. Stretching approximately 25,000 km, the AAE-1 is

designed to connect Asia, the Middle East, East Africa and Europe, and is expected to be ready during the fourth quarter of 2016. It will employ 100Gbps technology, with a capacity of more than 40 terabits to provide customers with low-latency, direct connectivity around the world. The building is also served by PCCW Global's extensive backhaul network, which will seamlessly link the international carrier exchange to many submarine cable landing stations and serve as a gateway to mainland China. Mr. Marc Halbfinger, Chief Executive Officer of PCCW Global, said, "We are pleased to be playing a role in extending Keppel's facility footprint to Hong Kong, which will reinforce the city's reputation as one of Asia's leading technology hubs. Indeed, Keppel T&T has been running high quality facilities supporting mission-critical operations for more than 10 years." Mr. Thomas Pang, Chief Executive Officer of Keppel T&T, said, "We are happy to partner with PCCW Global for our first investment into the Hong Kong colocation market, which benefits from the city's status as a key telecommunications and financial hub, as well as its connectivity to other hubs in Singapore, Amsterdam, London, and Sydney. The expansion of Keppel's data center footprint to Hong Kong is another step towards creating a data center value ecosystem that goes beyond colocation to providing value-added services and connectivity for our valued clients." Hong Kong is home to a strategic data center market that acts as a springboard to mainland China for multinational corporations because of its proximity and mature legal system. According to the independent Structure Research consultancy, the territory's data center market was valued at HK\$4.8 billion in 2015 and is expected to grow at a compound annual growth rate of 18% to reach HK\$10.8 billion by 2020.



## Turk Telekom, Nokia ink 5G, IoT MoU

Turk Telekom (TT) and Finland's Nokia have signed a Memorandum of Understanding (MoU) to accelerate the development of 5G radio access network technology and the applications that will drive the Internet of Things (IoT). According to a press release from Nokia,

TT will make its network infrastructure available to the vendor for real-time testing, and the companies will work together on trialing 5G and IoT technologies for tracking, metering, smart cities, smart home and latency-sensitive applications. They will then use their findings to develop 5G-ready solutions that will allow TT to evolve its network and be ready for the eventual introduction of commercial 5G services. The MoU will see the companies focusing on the development of a cloud architecture for radio and core network technology that can support Network Slicing in particular. Nokia notes that with Network Slicing, a 5G network can be tailored to the diverse needs of different industries, enabling the large-scale transformation of sectors such as healthcare, security, automotive, public safety, industrial manufacturing, smart cities and more. Ernst Nassl, Head of Region Turkey and Central Asia at Nokia, commented: 'Our work with customers on 5G is crucial in allowing us to better understand real network use-cases for this technology and to accelerate commercial use.'



## MIT Enterprise Forum Arab Startup Competition supported by Community Jameel and Zain Group

MIT Enterprise Forum Pan Arab, in partnership with founding partner Community Jameel and the Zain Group, announced the winners of the MIT Enterprise Forum Arab Startup Competition from a total of 76 contesting teams from 15 Arab countries. The competition's final award ceremony was held at the Bay La Sun Hotel & Marina in the King Abdullah Economic City on April 14, 2016. This year's event was also supported by government partner the Economic Cities Authority and hosting partner the King Abdullah Economic City along with global technology provider Huawei. The competition was

preceded by the Time to Invest in Arab Youth and Their Innovations Conference, organized by MIT Technology Review Arab Edition. During the conference, MIT Technology Review Arab Edition's five innovators under 35 in the Arab world were announced. The ninth edition of this year's competition received an outstanding 5,967 individual and team applications from 21 Arab countries, up from 4,275 last year, and representing a record participation of over 16,500 entrepreneurs up from 12,000 last year. The 9 winning teams across three tracks - Ideas, Startups, and Social Entrepreneurship - hail from Kuwait, Saudi Arabia, Jordan, Lebanon, Egypt, Tunisia and Morocco. The US\$50,000 top prize for the best start up track was awarded to Kuwait's Ghinwa, who are building a mobile application that can be used by users to perform Karaoke where songs are licensed from the copyright owners to ensure legality, allowing users to share and promote their talents across different social media platforms. Several high-profile entrepreneurs, investors and government officials from Saudi Arabia, the region and beyond shared insight during the conference and judged the competition. These include HRH Saud K Al-Faisal, Executive Director for Investment Policy at SAGIA, HH Reema Bint Bandar, founder and CEO of Alf Khair, Fady Mohammed Jameel, President of Community Jameel International, Scott Gegenheimer, CEO of Zain Group, Hassan Kabbani, CEO of Zain Saudi Arabia, Fahd Al Rasheed, Group CEO and Managing Director of Emaar Economic City and Wassim Khashoggi, vice secretary general operations of the Economic Cities Authority. Speakers and judges from several leading organizations in the finance and technology space such as Google, Facebook, Oak Investment Partners, 500 Startups and



MBC Group also shared insight during the event. The announcement of the MIT Enterprise Forum Arab Startup Competition ceremony took place during the evening award ceremony and the winners took home a pool of prize money totaling US\$150,000. Apart from the winner's prize money, each of the Ideas, Startups, and Social Entrepreneurship tracks semi-finalists benefitted from top tier training, mentorship, coaching, media exposure, and great networking opportunities throughout the competition. Startups Track: Winner: Ghinwa from Kuwait; 2nd place: Zamen from Egypt (A mobile application for real-time news feeds, filtered to display only the topics users interested in); 3rd place: B8ak from Saudi Arabia (A mobile application for home maintenance delivery) Ideas Track: Winner: Tutorama from Egypt (A marketplace of pre-vetted, professionally recruited tutors, which students and parents can use to search for tutors by subject, curriculum, location/distance and scheduling availability); 2nd place: Deep OR from Morocco (Data Analytics and Operations Research to help make quick and educated resource allocation decisions); 3rd place: Ostor Lab from Morocco (A cloud-based mobile application vulnerability scanner) Social Entrepreneurship Track: Winner: Hydropneumatic Flushing System from Tunisia (An economic water flush that does not leak and that withstands frequent use); 2nd place: Pathfinder from Lebanon (A mobile app and a belt, both automatically and securely connected to serve the visually impaired harmonically and safely) and 3rd place: Low Cost PPC from Jordan (A lower leg prosthetic with low production costs).



**PTCL inks fiber leasing deal with Telenor Pakistan**  
Pakistan Telecommunication Company Limited (PTCL) has signed a fiber leasing agreement with Telenor Pakistan. Telenor plans to leverage this agreement to upgrade its cellular backhaul to serve the expected data growth in the aftermath of 3G/4G regime in the country. With over 35,000 km of fiber deployed across Pakistan, PTCL's partnership with Telenor Pakistan

is expected to help Telenor expand its 3G footprint to provide data and voice services to its growing customer base.



### Huawei, Baidu build China's first T-SDN OTN

Huawei and Baidu announced they have jointly built China's first internet data center OTN that supports transport SDN (T-SDN). Baidu will use the network to support its open cloud services as well as its core search business and services. The network uses Huawei's T-SDN bandwidth on demand capabilities to provide transmission pipes that allow Baidu to handle burst traffic between connected data centers. Baidu currently mainly uses point-to-point interconnections between IDCs, which results in heavy load on the super IDC core switch, compromising traffic scheduling. With the new T-SDN based network, Baidu will be able to transmit traffic from services at different levels of granularity at different optical network layers, reducing traffic load on core switches and allowing the company to adjust transmission pipes and transmission pipe bandwidth in real time. "SDN is the product of applying IT technologies to networks," Huawei president of fixed networks Zha Jun said. "These networks evolve from pure data transmission to open, programmable, and service-oriented systems that can be driven by applications. They support dynamic networking, centralized control, and network-wide optimization."



### Sudatel Group announces \$52 million net profit for 2015

Sudatel, a leading telecom group operator in Sudan and West Africa, is announcing its end of year financial results with a positive increase in its net profits for the fiscal year 2015. The Group witnessed positive growth across all financial indicators achieving US\$ 52 Million in net profits, an increase of 4%

compared to the previous year as well as earnings per share going up 10%. The announcement was made during the first Board of Directors meeting chaired by Dr. Abdul Rahman Dirar, Chairman of Board of Directors, which took place this year with participation of all members from both inside and outside of Sudan. The board meeting's agenda included reviewing the Group's financial performance and the external audit reports for the fiscal year 2015. The Board also ratified the financial results report and the final accounts audited by the General Auditor Office in Sudan and by independent auditor firm "International Accounts" based in Saudi Arabia, as well as reports by Ernst & Young who are responsible for auditing the Group's companies in West Africa. The Board of Directors also adopted the invitation of the General Assembly to convene on the 30th of April 2016 to approve the final accounts for the Group and distribute cash dividends to shareholders. Commenting on these results, Dr. Abdul Rahman Dirar, has praised the Group's remarkable financial results, which showed a financial improvement in all areas and which confirms the continuous growth of Sudatel Group's activities for the second year in a row. Eng. Tarig Hamza Zainelabdin, Sudatel's CEO, has expressed his satisfaction with the results achieved over the past year and which have been authorized by the Council. He also stressed that the Group is moving steadily towards achieving the strategic objectives set by the Group and that was approved by the Board of Directors late last year. Zainelabdin also praised the performance of all employees working in the Group's companies and stressing on the pivotal role they play and for their contribution to the development of the telecommunications sector in all the countries in which the Group operates.



### PTCL records robust performance in Q1 2016

Pakistan Telecommunication Company Limited (PTCL) has announced today its financial results for the quarter ended March 31, 2016 in its Board of Directors meeting held at Islamabad. PTCL

Group earned Rs. 29.3 billion revenue during the quarter whereas PTCL's revenues were Rs. 18.0 billion. Data revenues increased compared to the same period last year. The Company's profitability remained stable despite competition. Net profit of the Company stood at Rs. 3.1 billion which was 27% higher compared to Rs. 2.5 billion of same period last year. Likewise, PTCL Group's profitability also increased significantly. PTCL Group continues to invest into integrated solutions, delivering exceptional quality on the back of its proficient Data services. The Company is focused on creating more value for its customers and is refining its increasingly efficient and widespread network. PTCL's sustained efforts in developing a next generation ICT infrastructure have translated into greater benefits for both its customers and shareholders.



## Syniverse IPX network provides global LTE reach for Warid Telecom

Warid Telecom is leveraging the Syniverse IPX Network Solution and Diameter Signaling Services to enable its subscribers to access LTE service around the globe. Under the agreement, Warid Telecom will also provide LTE service to visiting inbound roamers throughout Pakistan. LTE roaming has emerged as a critical mobile service in Pakistan and the rest of the world as the number of subscribers has steadily been increasing. Pakistan had over 26.1 million 3G and LTE subscribers as of February, up from just 24.7 million in January, according to the Pakistan Telecommunications Authority. Moreover, the number of LTE connections worldwide is expected to reach nearly 3 billion by 2020, according to the GSMA. "LTE service has quickly moved from a next-generation technology to a mobile-service standard, and our customers are coming to expect LTE speed and capacity anywhere they go," said Asma Khan, Director International Business, Warid Telecom. "Syniverse will help us take an important step forward in implementing LTE on a global basis and in ensuring we meet customers' expectations for smooth, consistent LTE

servicewherevertheytravel."Syniverse's IPX Network Solution and Diameter Signaling Service interconnect the world's networks to make LTE possible anywhere and at any time. A crucial part of LTE involves the deployment of an IPX network, the network backbone that makes LTE and LTE roaming possible, and Diameter, the industry-standard signaling protocol for proper routing and delivery of messages. Syniverse provides operators with a comprehensive solution for global LTE enablement with a carrier-grade connection to the company's all-IP network, which currently serves more than 2,300 LTE roaming routes with connections that reach more than 320 operators in 66 countries. "With GSMA projecting that LTE connections will exceed 2.5 billion and reach over 60 percent of the world by 2020, mobile service providers can't afford any mistakes in rolling out LTE," said Mahesh Prasad, Executive Vice President of Sales for Europe, Middle East, Africa and India, Syniverse. "As one of the pioneers in global LTE enablement, we'll use the expertise we've developed to help ensure that Warid Telecom launches LTE roaming service as quickly and flawlessly as possible to provide the highest level of LTE service to customers." Syniverse's agreement with Warid Telecom continues a string of LTE accomplishments around the globe. Syniverse has enabled global LTE for more than 130 operators. In 2015, Syniverse announced that it will use its IPX Network to power LTE for operators including, Ooredoo, Telin and the Saudi Telecom Company. In 2015, Syniverse also announced agreements to deliver VoLTE (Voice over LTE) services for LG Uplus after enabling the world's first transoceanic VoLTE roaming call earlier that year.



Revenue grows by 4.7% to R.O 135.5 million and net profit reaches R.O 34.8 million

Oman Telecommunications Company S.A.O.G (Omantel.MSM:OTEL), revealed the Company's preliminary unaudited financial results for the 1st Quarter ended on 31st March 2016. Group revenue recorded a growth of 4.7% to

R.O 135.5 million compared with R.O 129.4 million in the corresponding period of 2015. Cost of Sales increased by 8.4%, while Operating Expenses recorded a decrease of 3.5% compared to the corresponding period. The Group net profit is RO 34.8 Mn compared to R.O 34.6 million in 2015, an increase of 0.6%. The net profit is propelled by strong domestic performance, which witnessed an impressive revenue growth of 5% contributed mainly by revenues from Fixed and Mobile broadband services and submarine capacity sales.



## 1.2m downloads for PCCW mobile video app

PCCW's over-the-top (OTT) mobile video platform Viu has had more than 1.2 million downloads in Hong Kong since its launch last October. Viu is a free app available for iOS and Android devices, offering premium quality content which is streamed or pre-downloaded for viewing on smartphones and tablets. Content includes the latest TV dramas and variety shows from Korea, Japan, mainland China and Taiwan. Besides Hong Kong, the Viu platform has been rolled out in Singapore, Malaysia and India, and will soon be available in Indonesia, PCCW says.



## SLA Digital expects further growth following first launch of Carrier billing capability on Google Play

SLA Digital is pleased to announce that their first integration with Google Play™ is now live. An existing global mobile operator partner of SLA Digital is using SLA's proprietary Digital Services Platform to launch Carrier Billing on Google Play. This new capability means that Google Play customers, using this operator's network, can purchase digital content from games to apps and music without the need of credit or debit card details. Instead

Carrier Billing offers these customers a secure and convenient mobile payment solution allowing them to purchase digital content seamlessly by simply deducting the transaction from their prepaid phone credit or charging it to their post-paid phone bill. SLA Digital expects further live operator connections to Google Play for Carrier Billing in the coming year, especially with the recent success of this live deployment. Nic Stirk, CEO at SLA Digital commented, "SLA Digital's partnership with global and local app stores and merchants is key to our success as a leading worldwide Digital Services enablement provider. At SLA Digital we are excited to announce our involvement in this integration with Google Play. We are providing connectivity to a number of other app stores like Microsoft and Samsung via Carrier Billing and this announcement marks another strategic milestone for the company as we continue to launch Carrier Billing across Europe, the Middle East and Asia for both mobile operators and merchants alike."



### Batelco announces prime sponsorship of International Telecoms Week (ITW) 2016

Batelco, with its increasing focus on the global business market, has announced it will be the Prime Sponsor of International Telecoms Week (ITW) 2016. The event is scheduled to take place in Chicago at the Hyatt Regency and Swissotel hotels, from May 8 to 11. Batelco, having completed an extensive global expansion project earlier in the year, has focused more of its efforts towards developing its global partnerships with world-renowned providers to offer end-users an excellent service experience. Such prestigious events as ITW offer Batelco a platform to meet its partners from around the world, and discuss ways to strengthen their relationships further. ITW is an annual event, now in its 9th year, which attracts more than 6000 senior executives from carriers, service providers, ISPs, VOIP providers and technology partners from all over the world. Batelco is sponsoring ITW 2016, and a number of its executives will represent the Company to discuss

their global plans and ways to move forward with their partners during the event. The Batelco participants will also further reinforce the Company's global footprint and capabilities, while meeting exhibitors and potential partners and customers. "We are very keen on supporting events that aim to develop the telecom industry, and as such we are proud to be sponsoring ITW 2016," said Batelco Chief Global Business Officer Adel Al-Daylami. "This year we are attending the event with a stronger global portfolio and will work on strengthening it even further during the conference." Batelco is viewed as a leader in providing global data solutions as the Company has an established presence in all major areas including the Middle East, Europe, the US, Asia, and Africa. Batelco's active Point-of-Presence (PoPs), strategic partnerships and Joint Ventures (JVs) have enabled them to secure a multitude of projects connecting multinational organizations in disparate locations across the globe.



### du awarded for Best Enterprise Mobility and Best Cloud Security Solutions at Cloud

du was lauded for the Best Enterprise Mobility Solutions and the Best Cloud

Security Solutions at the inaugural Cloud MENA Awards 2016, held at The Conrad, Dubai on April 11, 2016. The awards recognized the drive and innovation from the MENA cloud computing industry, with four categories to acknowledge the host of services from across the cloud ecosystem. "Our innovative cloud based services including Enterprise Mobility Management and Secure Web Hosting are UAE-based, enabling enterprises to leverage the flexibility of the cloud securely while keeping all corporate data within the UAE," said Abou Moustafa, Vice President Enterprise Managed Services and datamena. "This award is a solid indication of our innovation in the enterprise space; we have uniquely incorporated expertise in cloud, mobility and security to offer comprehensive value added services to enterprise customers in the UAE" The telecommunications provider has brought together and seamlessly integrated a range of security technologies required to securely host and offer innovative cloud based services to enterprise and government organization in the UAE. Moreover, du has been developing and refining its security operations centre (SOC) for over a decade to deliver end-to-end monitoring from the UAE, with predefined rules for identifying and mitigating threats in real time. It gives us a complete view of our customers' operations and enables us to deliver superior levels of security.





## Zain Group hosts Customer Engagement Forum in Kuwait

Zain Group, a leading mobile telecom innovator in eight markets across



the Middle East and North Africa, announces the successful conclusion of its Customer Engagement Forum 2016, a three-day event held in Kuwait April 4-6, which drew senior personnel from across the Group operations. Customer experience management remains one of Zain Group's keys strategic pillars, with the company investing heavily in the area in order to maintain the highest quality of service for its customers. The Customer Engagement Forum focused on areas of customer experience management and topics of discussion included Customer Centricity and Complaint Management; Channel Economics; Change and Knowledge Management; Social Care as well as a dedicated session and focus on Zain's brand and digital online future strategic direction. Key presentations were made to the Zain management by leading global and regional technology providers specialized in the customer management arena showcasing the latest solutions available, namely Cybermak, Matrixx, Qelp, ResponseTek and Sestek. In addition, innovative end-to-end mobility digital services provider FOO Solutions, the entity that Zain recently acquired a strategic stake in, showcased how mobile apps can be at the center of customer services. The Forum was led by Zain

Group CEO, Scott Gegenheimer, and Group Chief Commercial Officer, Duncan Howard who have been strong advocates for the Group's focus on customer experience management, having overseen a number of key initiatives in the area recently. Commenting on the successful conclusion of the Forum, Scott Gegenheimer said, "In today's competitive telecom landscape, customer experience management is as important to the sustainable success of a telco as technical innovation and investment. At Zain, we take this area of our business very seriously and are developing it as one of our key

differentiators. As a Group of operations we benefit from differing experiences in our respective markets, and it is important to be able to gather regularly and share knowledge and insights in settings such as the Customer Engagement Forum." Zain is set to continue to develop its laser-like focus on simplicity and operational efficiency, with customer experience remaining an important factor in driving commercial success. Retaining customers is vital and Zain strives to deliver the best experience in order to achieve this. Elements within Zain Group's customer experience management program include the quality of its network, delivery of value-added services, as well as the improvement of all customer touchpoints. In an example of Zain Group's heightened investment in customer experience management-related activities, last year the Group and its country operations introduced a series of analytical tools and activities aimed at heightening customer satisfaction levels, the results of which are proving positive. Zain's holding of regular Customer Week exercises forms part of the company's ongoing commitment to delivering the best-in-class customer experience, and was conducted across all Zain Group markets simultaneously. Zain personnel, including business

chiefs, directors, managers, and general staff interacted closely with customers during the week through different activities arranged in conjunction with the local customer experience teams. Across its markets, each quarter approximately 150-200 members of Zain Group's management participate in Customer Day (Voice of the Customer) activities whereby the company conducts customer-related activities that take place in each of its markets, where management teams participate in customer-related activities including serving in retail, answering calls in contact centers, social media chats, corporate customer visits, on-site base station visits with engineers, and so on. At the end of each session, management teams meet to discuss their observations and a list of actions are created to determine what needs to continue to improve. Zain has also implemented an internal customer survey feedback platform, which continues to be rolled out across markets, providing deep insights on customers' key interactions. When customers interact with the company through a visit to a branch or when calling customer service, they soon thereafter receive a SMS based survey that addresses questions related to satisfaction with the interaction, effort required to handle their request, agent knowledge to deal with their interaction and more. These real-time insights have enabled Zain country operations to continue to shape their plans to drive the right results ultimately aimed at reducing customer effort and increasing both customer satisfaction and net promoter score. The real-time tool has now launched in five markets, with the remaining markets due to go live this year. Additionally, members of the Customer Care and Customer Experience community across Zain Group participated in the Global CEM accreditation training as part of bi-annual forums undertaken by the company. The interactive training was aimed at continuing to develop capabilities and skills related to customer experience and required participants to submit an examination assignment in order to be accredited. Many of Zain's community members are now certified in Global CEM as a result.



## Mobily signs NEC for three years network managed services agreement

Etihad Etisalat (Mobily) and Bayanat Al Oula (Mobily) signed an agreement with NEC the Japanese company, for provision of network managed services for the upcoming three years. The agreement represents an expansion in the scope of work between the two parties. Accordingly, NEC will provide the network managed services for (Microwave-PTP) networks as business solutions reflected on the control and management of daily operations, corrective actions, Proactive and preventive maintenance, and improving the operating system, as well as keeping pace with the latest developments of the system. Mobily aims to enhance the competency of its network in the Kingdom and make the utmost of this agreement to provide the best services to its customers in the business sector. Mobily owns reliable infrastructure that enhances its ability to provide the best services in this sector, and is always seeking to maintain its excellence in the provision of high quality services that exceed customers' expectations, meet their needs and enrich their experience through operational efficiency and high quality of provided services, in addition to the achieved progress in major performance indicators of networks and services level agreements for its networks according to global industry criteria. Engineer Maziad Al Harbi, Chief Technology Officer at Mobily, confirmed that the company works to hold different partnerships with global highly qualified companies that enables the company to provide the most advanced services to its customers, and to establish the principles of exchanging experience with international companies. Engineer Kamal Nasr Aldeen, Vice President, Sales and Business Development in NEC company Saudi Arabia Branch said that " under the current huge development in the field of Data Transfer and the increasing competition to provide the best services for customers, which requires developing

of managed services industry to ensure full competency of the network and improve the operational standards which in its turn leads to upgrade the service standards and this guarantees for (Mobily) to be always at the forefront of operators in the field of data within the Kingdom of Saudi Arabia.



## du announces its participation as principal sponsor at the 6th annual Cloud MENA 2016

du, the principal sponsor at the 6th annual Cloud MENA, will showcase its state-of-the-art secured cloud platform during the most comprehensive cloud computing event in the region, held at Conrad Hotel Dubai from April 11 – 12, 2016. "Organizations throughout the UAE are fast moving past the early-adopter stage when it comes to the cloud, attracted by the operational and cost benefits it has over traditional IT systems. Through our participation at Cloud MENA, we are showcasing our combination of the finest talent, best of breed technologies and innovation to deliver secure and scalable cloud based services in the UAE," said Abou Moustafa, Vice President - Enterprise Managed Services & datamena. Cloud MENA 2016 will showcase the growing momentum behind the cloud and cloud-enabled services including security, mobility and unified communications in the UAE. du's managed services team will be available at the du Lounge to discuss the innovative technologies that ensure its secured cloud based platform for UAE government and enterprise customers, the speed of deployment and the way in which it helps reduce IT capex obligations. du enables companies to expand their infrastructure capacity without undertaking costly construction or facility leasing, while benefiting from better connectivity, improved security, redundant and continuous power, room for growth, bursting capability and access to a host of cloud-based solutions that lower the cost of managing and delivering IT.



## Batelco introduces cloud productivity solution

Batelco is enhancing its Cloud Solutions portfolio by introducing a Cloud Productivity Solution for the SME segment. The productivity solution has been developed to help small and medium enterprises enhance their productivity and efficiency by providing them with a complete set of cloud-based applications to run and automate their operations. These sophisticated applications were previously restricted to large enterprises due to the high cost and skills required to maintain them. Batelco's Cloud Productivity Solution for SME's is an all-in-one product that is easily accessible from anywhere at any time, with prices in line with the budget of an SME business. The solution features a number of productivity and efficiency enhancing tools such as: Customer Relationship Management; Accounting & Inventory; Resource Management solutions, plus more. Additionally, Batelco has a team of technical experts offering consultation services for business customers, and experts are available to customize innovative solutions for each business. As the innovation driver in Bahrain, Batelco was the first in the Kingdom to launch a series of Cloud-based services to empower businesses to digitize their processes and improve their operational efficiencies. Batelco's cloud solutions serve businesses of all sizes across all industries by delivering a range of solutions such as Web Development, E-Commerce, Business



Continuity and Productivity Solutions. Batelco Chief Marketing Officer Mike Stanford said, "Our customers look for cloud solutions that are flexible and scalable that will enable them to better

manage their operational costs. We are committed to meet their requirements by providing businesses with a full range of cloud solutions.” “We are committed to enabling our customers to accelerate their digital transformation while reducing their costs and enhancing their operations and we believe that the Cloud Productivity solutions will support our efforts,” Mr. Stanford added.



## Orange to expand in Europe, Middle East, Africa

Orange plans to continue to look for opportunities to consolidate and enter new markets in Europe, as well as to grow in Africa and the Middle East. Mr. Stephane Richard told Bloomberg that consolidation “would have made things easier” but that Orange would not now change its strategy in its domestic market. “We have a clear strategy through 2020 and French consolidation was never a prerequisite for it,” Bloomberg quoted Richard

## Announcement of Telecom Leaders’ Summit 2016; Ten-year Anniversary Celebration to corroborate SAMENA Telecommunications Council’s stance on digital economic development and better connected world

SAMENA Telecommunications Council has announced that it will hold its Telecom Leaders’ Summit 2016, an annual top-tier stakeholders’ meeting being organized since 2010, this year on May 19th in Dubai, UAE. On this special occasion, which will bring together leaders and stakeholders from the Public and the Private sectors, and which will also mark SAMENA Council’ tenth year anniversary, SAMENA Council has confirmed the presence of leading telecom CEOs across the EMEA region, and various industry figures, globally-known to be actively pursuing digital development and societal transformation. It is the primary objective of SAMENA Council’s Telecom

Leaders’ Summit 2016 to facilitate and drive cross-stakeholder participation and open communication by bringing together business decision-makers, investors, policy and regulatory authorities, and global institution-level leadership, in order to open new avenues of progressive thinking and future planning for the benefit of both the telecoms and ICT industry and the ultimate stakeholders – the citizens, the consumers. Mr. Bocar A. BA, CEO of the SAMENA Telecommunications Council said, “This year’s Leaders’ Summit 2016 will delve into urgent areas of cross-stakeholder discussion, and efforts will be exerted to advance significant post-gathering co-operative undertakings, bearing long-term positive impact for the telecom industry of the SAMENA region and beyond. We aim to draw renewed focus on the need to accelerate the development of the Digital Economy and be united toward building a better connected world.” Stakeholder participants of the Leaders’ Summit will debate about re-defining priorities in Policy, Regulations and Infrastructure Development, and will address necessities of the evolving market and relevant legislation & regulation, as well as define viable areas of investment and stakeholder partnership to help reduce financial burdens. For the third consecutive year, the leadership summit is being hosted by Huawei. Participation in Telecom Leaders’ Summit 2016 is by invitation only. Invitations are being extended to chairmen and chief executives of network operators, heads of regulatory authorities, and heads of ICT policy bodies across the SAMENA region as well select markets of Asia and Europe.



## Turkcell officially launches 4.5G in Turkey

TURKCELL officially launched 4.5G in Turkey as LTE-A services on its network went live at midnight on March 31. Turkcell customers nationwide began to benefit from 4.5G services as of 12.00 am. With its 4.5G launch, Turkcell will offer the fastest LTE speeds that are supported on commercial terminals globally. Combining this speed with the geographical scope of its coverage – spreading over 81 city centers in a country with a territory of 783.6 thousand km<sup>2</sup> (302,5 thousand sq. miles)– makes

Turkcell unique among its international peers. Turkcell doubles 4.5G data quotas, declares customer commitments Prior to the launch, Turkcell announced its customer commitments as Turkey’s mobile users start enjoying a new era of communication. According to the 10-point declaration, which includes, but is not limited to, 4.5G services:

1. Turkcell commits to doubling its 4.5G customers’ mobile data quotas for the same price during a 3-month period. With the new 4.5G tariffs, it offers significantly higher data quotas for a fractional increase in rates.
2. Customers will not pay penalties when switching between different 4.5G tariffs.
3. 4.5G customers who travel outside Turkey will continue to enjoy their existing packages when roaming, preventing roaming billing shocks.
4. Turkcell’s smart billing practices and advisors minimize billing shocks in general: When there is an extraordinary spike in the bill, the customer receives a notification and is offered a more beneficial package if applicable.
5. When connecting homes and offices with fixed internet, Turkcell makes sure its customers do not suffer from a lack of internet connection – it supports them with mobile internet as they wait for the completion of technical procedures.
6. When customers experience a malfunctioning of their smartphones, Turkcell provides substitute devices.
7. Turkcell Financial Services company provides flexible payment opportunities for customers to access the devices of their choosing.
8. Turkcell maintains an open access attitude in its products and services, including its OTT services, and serves not only its own mobile subscribers, but also the customers of all other operators.
9. Turkcell serves its disabled and elderly customers at their homes when necessary.
10. In extraordinary circumstances, Turkcell suspends the financial obligations of its customers and notifies them accordingly.

Turkcell had announced the readiness of its network for 4.5G services at a press conference held simultaneously in 5

cities on March 22nd. Download speeds of up to 390 Mbps were achieved at the speed tests carried out during that press conference.



## Huawei leads global ICT innovation through patents and integrated partnerships

The World Intellectual Property Organization (WIPO) in Geneva announced that Huawei — a leading global ICT solutions provider — topped the list of international patent filers in 2015 for the second year in a row. In

interfaces to real-time subscriber data, had served over 310 operators in more than 136 countries. The white paper reported that the advantage of Huawei SDM solution lies in how it helps operators improve operation efficiency, accelerate service innovation and explore the potential value of subscriber data. These operators can in turn manage the growing subscriber data, simplify the network, and reduce operation costs. "Collaborating with vendors on research programs and acquiring patents are just some of the R&D activities that enable us to better integrate ICT technologies into various industries," said Zou Zhilei [SM1], President of Carrier Business Group, Huawei. "As a key enabler in the ICT industry, Huawei is committed to helping the telecom industry and other verticals digitize their infrastructure, operational

systems and business models with state-of-the-art innovative technology," Zou added. Huawei was also recognized by several leading marketing and brand authorities including UK consulting firm Brand Finance in its "Global Top 100 Valuable Brands" list, Interbrand's "Best Global Brands" report for 2014 and 2015, as well as WPP's BrandZ in its "Global Top 100 Most Valuable Brands"



total, Huawei applied for 3,898 patents, 456 more than the previous year, beating out other leading technology players. WIPO tracks applications filed under the Patent Cooperation Treaty (PCT), an agreement that gives a filer patent protection in 148 countries with a single application. International patent applications filed under the PCT grew by 1.7% to 218,000 in 2015, a new annual record. "Global intellectual property applications, like those for patents, trademarks and industrial designs, provide a good indication of the incidence and location of innovation," explained WIPO Director General Francis Gurry. Additional to WIPO's ranking, this month's Subscriber Data Management (SDM) market survey published by Frost & Sullivan placed Huawei at the top in the SDM market for 2015, with a global share of 30%. By year's end, the Huawei SDM solution, which provides a platform with open

for 2015. Huawei has been showcasing its leadership in innovation globally at key events around the world including CeBIT 2016 this month, where Huawei demonstrated leading solutions while highlighting its capability of empowering customers to lead in the new ICT era. CeBIT 2016 also saw the launch of the industry's first Internet of Things (IoT) lighting solution, Huawei Connected City Lighting Solution, with multi-level intelligent control. At Mobile World Conference 2016 in February, Huawei launched its flagship MateBook 2 in 1 device delivering high-end productivity that seamlessly integrates mobility, high efficiency, work and entertainment. Huawei also shared its 5 'Big Initiatives' that will drive growth for regional telecom providers, foreseeing a potential \$100 billion video streaming market, a \$1 trillion enterprise cloud market, and ten-fold growth in the number of IoT

connections. Huawei describes the five initiatives as Big Video – Everywhere, Big IT – Enabling, Big Operation – Agile, Big Architecture – Elastic, and Big Pipe – Ubiquitous. Huawei also showcased its Safe City Solution that enables cities to build multidimensional, intelligent security systems featuring awareness, visualization, and collaboration, helping governments improve crisis prevention, reduce emergency response time and reaction, as well as driving down crime rate. Huawei continues to support regional operators through cutting edge solutions as they push to rollout advanced wireless services on 4.5G while paving the way for next-generation 5G capability in near the future. Building on that, Huawei's IoT and smart cities solutions provide the platform for further regional innovation around large-scale national initiatives. Huawei's regional innovation center in Dubai and joint innovation centers with its strategic partners in the Gulf enable Huawei to deliver this capability as while supporting local communities through knowledge transfer and by nurturing local talents, an initiative that Huawei implements across all regional markets and is a key component of its global 'Seeds for the Future' CSR program.

STC  
الاتصالات السعودية



## STC inaugurates the landing of the Fifth Marine Cable (SeaMeWe5)

The Saudi Telecommunication Company (STC) inaugurated the landing of the Fifth Marine Cable (Sea Me We 5) here under the auspices of Minister of Communication and Information Technology (MCIT) Dr. Mohammed Al-Suwaiyel. Attending the ceremony were Governor of Communication and Information Technology Commission Dr. Abdulaziz AlRuweis, President of the Royal Commission in Yanbu Dr. Alaa Nassif, Governor of Yanbu Mousaed Al-Salim, CEO of Alcatel Submarine Networks Mr. Frank Maccary, Chairman of STC Board of Directors Dr. Abdullah Alabdulqader, and STC CEO Dr. Khaled Biyari. The 20,000-km long cable represents the most up-to-date technology in marine cable systems. Tethered from Singapore to France, 19 international operators invested in the cable, which makes 20 pit stops in 18 countries. Celebrating

the occasion before dignitaries from the telecommunications industry and Yanbu governorate, Dr. Biyari highlighted the role of STC in the marine component of the international telecommunications grid. He recalled that STC first introduced Internet service to Saudi Arabia in 1998 when the bandwidth was at mere 4 Mbps, while today it has reached almost 4 Tbps (i.e. million-fold). Dr. Homoud Al-Kussayer, STC VP for Wholesale explained how Saudi Arabia played a pivotal role as a telecommunications hub between the Far East and Western Europe. He said Yanbu was selected as a landing site for ease of connections to both Riyadh and Jeddah, as well as the fact that the seabed off its shore is very favourable for submerging the marine cable. MCIT Minister Al-Suwaiyel then gave the captain of the ship laying the marine cable permission to proceed with the landing of the cable from the vessel to shore. Once landing in all international sites is complete, the marine cable will go into operation; current expected date is set for December 2016. The cable will boost bandwidth to 24 Tbps in order to meet the ever-increasing demand for broadband and Internet services along with their applications. In addition to investing in marine cable systems, this jump in demand for broadband has prompted STC to invest heavily in the LTE/4G and LTE/4G advanced networks and fiber optic networks for business and residential use.



### Etisalat introduces new "Business Ultimate" mobile plan

Etisalat has announced the launch of its New Business Ultimate mobile plan, offering small and medium business customers (SMBs) wider data allowances and options to meet their connectivity needs. The new monthly plan also offer the latest Smartphones and devices as an add-on at zero upfront charge. Digitization and digital adoption is on the rise. The usage of mobile data in the UAE's business world is increasing at a fast pace as more and more business professionals and entrepreneurs try to get the most out of it through sharing of data-heavy info in real time such as business emails, video conferencing, corporate apps,

location-based services and more. In addition, the entry of high-speed LTE devices has led to an increased demand for high-end data plan subscriptions. SMBs are increasingly looking for the convenience of having data benefits built into their Smartphone plan. Starting with as low as Dhs100 per month, and with data allowance up to 12GB, Etisalat's flexible New Business Ultimate plan are replete with calling minutes, including flexi for national and international calling.



### Turkcell launches 4G services

The telco, which won LTE spectrum in multiple bands in August, said it is offering high-speed mobile services on its LTE-Advanced infrastructure in 81 city centers across Turkey. Like a number of other telcos, Turkcell has



branded its LTE-A service as 4.5G, but there remains some debate in the industry as to what actually constitutes the interim step between current 4G technologies and the as-yet undefined 5G standard. In tests carried out last month, Turkcell's 4.5G network achieved a download speed of 390 Mbps in the city of Samsun, and speeds of around the 350 Mbps mark in four other cities. Upload speeds came in at between 40 Mbps and 50 Mbps. Equipment makers have their sights set on higher speeds for 4.5G technology though. For Huawei, 4.5G will allow for speeds of up to 1 Gbps and latency of less than 10 milliseconds. The technology will be suited particularly to an increasing number of connected devices, rather than being geared towards the smartphone market, the vendor says. Meanwhile, rival ZTE has shunned the term 4.5G, preferring instead to roll out what it terms pre-5G offerings. One of the first of these to market looks set to be massive MIMO, which it says will

be in use later this year. The Turkish state insisted on using the 4.5G badge when it allocated LTE spectrum last year though, doubtless in part due to president Tayyip Erdogan's call a year ago for the country to skip the fourth generation of mobile technology and move straight from 3G to 5G. Turkcell's 4.5G announcement is pitched firmly at the smartphone market. It has set out a 10-point plan covering its service to consumers, including offering larger data bundles for a promotional period, allowing customers to use their existing packages while roaming, and providing flexible payment plans for devices. The announcement did not include full pricing details, but Turkcell said it will provide "significantly higher data quotas for a fractional increase in rates."



### Huawei reports 37% rise in full-year revenue

Huawei reported a 37% rise in full-year revenue, driven by the ongoing deployment of 4G networks and strong growth at its devices business. Revenue in the 12 months to 31 December 2015 came in at 395 billion yuan (€53.63 billion), up from CNY288.2 billion in 2014. Huawei's networks business accounted for the lion's share, CNY232.3 billion – up 21% year-on-year – but its devices business is catching up fast. The division, which produces smartphones, wearables and so on, saw full-year revenue surge to CNY129.1 billion, compared to CNY75.1 billion in the previous year. Smartphone shipments surged to 108 million, up from 75 million. Meanwhile, Huawei's enterprise unit generated revenue of CNY27.6 billion, up 44% year-on-year, driven by strong growth in the public safety, finance, transportation and energy sectors. "In part, Huawei owes its long-term growth to the sheer size of the ICT market, which is the driving force of digital economies around the world. However, our growth is also a direct result of strategic focus and heavy investment in our core businesses," said Huawei's rotating CEO Guo Ping, in a statement. Huawei's 2015 operating profit surged to CNY45.79 billion from CNY34.21 billion in 2014, while net profit rose 33% year-on-year to CNY36.9 billion. Cash flow grew to CNY49.32 billion from CNY41.76 billion. "We wrapped up 2015 in a robust financial position,

with stable cash flow from operating activities, increased cash availability, and effective risk control," said Huawei's chief financial officer Sabrina Meng. "In 2016, we will continue to focus on our pipe strategy, staying customer-centric in all we do."



## France Télévisions inks Eutelsat capacity deal

After announcing a number of deals in the MENA region, satellite operator Eutelsat has now announced a win much closer to home with France Télévisions. The French public broadcaster will be taking capacity on the EUTELSAT 5 West A satellite allowing it to upgrade all of France 3's regional channels to HD from April 5. The 24 regional channels will be available for the two million homes receiving Fransat, Eutelsat's free-to-view TV platform for French homes. The move is part of the complete switch of France's DTT channels to MPEG4-HD in the night of April 4 to 5. Fransat viewers will be the first satellite viewers to experience the benefits of enhanced sound and video quality of France 3's full roster of regional channels. The change in standard is a major challenge for France Télévisions, requiring uninterrupted broadcasting of a line-up comprising five national channels — namely France 2, France 3, France 4, France 5, France Ô — and the 24 regional channels of France 3. Eutelsat adds that video, audio, data used for audio description and connected TV services will all benefit from improved quality optimized for TV viewers.



## PCCW Global first to achieve MEF 100G CE 2.0 cert

PCCW Global has become the first operator to achieve MEF 100G carrier Ethernet 2.0 certification for E-Line and E-Access services. PCCW Global passed a series of tests covering a full set of 100G service attributes, including performance and bandwidth profiles. The MEF's official test lab Iometrix conducted the compliance testing.

Huawei is providing the network equipment for the 100G service. The Chinese vendor was one of the first six worldwide to launch 100G CE 2.0 certified equipment in 2015. "The MEF congratulates PCCW Global and Huawei on their collaborative, pioneering work to drive industry innovation with 100G CE 2.0 services certification," MEF president Nan Chen said. "We look forward to other service providers following suit in order to lay a highly scalable CE 2.0 services foundation that ultimately will support dynamic, cloud-centric services orchestrated over automated and interconnected networks." Chen said the previous upper limit for MEF CE 2.0 services certification was 10G. PCCW Global CEO User Marc Halbfinger added that by achieving the certification "we have demonstrated our ability to meet the high performance, high reliability, and scalability standards required by our customers' demanding, business-critical applications."



## Orange Jordan signs strategic partnership with The Jordan Post Company

Orange Jordan recently signed a strategic service cooperation agreement with the Jordan Post,

— was announced during a recent signing ceremony, which was attended by the CEO of Orange Jordan, Jérôme Hénique; the Chief Enterprise Officer of Orange Jordan, Sami Smeirat; and the Director General of the Jordan Post Company, Khaled Lahha. Per the agreement, Orange Jordan will also provide a set of integrated business solutions to the Jordan Post, including virtual network, multi-protocol label switching services, and data transfer service at both the headquarters and the computerized post offices of the Jordan Post Company. Speaking on the occasion, Orange Jordan CEO Jérôme Hénique stressed on the importance of cooperation between Orange Jordan and its enterprise partners, including the Jordan Post Company. Hénique pointed out that this agreement falls in line with the company's new corporate strategy, Essentials 2020, which focuses on connecting people to all that is essential to them, including for its enterprise customers. For his part, the Director General of the Jordan Post Company, Khaled Lahham, stressed that enhancing this partnership with Orange Jordan reaffirms the confidence that the private sector has in the Jordan Post Company. He pointed out that, as part of the company's mid- and long-term plans, Jordan Post seeks to transform its post offices into "Community Service Centers" that provides traditional postal services as well as a package of updated and additional services to keep pace of what is happening in the world, in addition to continuing its cooperation with the private sector. The Chief



through which the Jordan Post will provide telecommunications services to the masses via its post offices spread around the Kingdom, in order to serve a broader segment of citizens. This partnership, which aims to continue providing a wide range of telecommunications services to the public — including telegram services and Orange lines at the post offices

Enterprise Officer of Orange Jordan, Sami Smeirat, expressed his pride in the extension of the partnership between the two entities, through which Orange Jordan offers the Jordan Post Company a comprehensive bundle of services, including mobile lines, landlines, data transfer services, a recently expanded communication network, and cloud computing service.



## ▼ REGIONAL NEWS

### REGIONAL UPDATES

#### Kingdom spends SR150 billion on ICT in 2015

The Kingdom has spent SR120 billion for development of telecommunications and information technology sector during the year 2015, King Abdulaziz City for Science and Technology (KACST) President Prince Dr. Turki bin Saud bin Mohammed Al-Saud has said. The prince was inaugurating the Saudi Arabian High Performance Computing Conference (SAHPC) and Exhibition at the KACST headquarters on Tuesday. The event sponsored by the KACST, was held in cooperation with the Saudi Aramco, number of international universities and specialized companies that are related to Information and Technology. The president pointed out that the Kingdom is the largest investor in ICT in the region and it is one of the ten in spending in the relevant sector in the globe. The Kingdom has one of the 500 fastest computers in the world, including the high-performance computer (hump), which the KACST has achieved. It was also ranked the second place among the most energy-efficient computers in November 2012. The prince said the world is going through a revolution to form a huge data base that will rapidly increase in the coming years. He said the purpose of the conference is to identify specialists government agencies, universities and research centers and the private sector in the Kingdom of the tools available in the field of computing, high-performance and can

provide solutions to many of the business through simulation and modeling, data analysis in vital areas such as defense and security, climate and weather, oil and gas, and vital information. The SAHPC forum is a premier regional event at which HPC industry leaders, application developers, scientific and engineering users, educators, and economic and institutional planners network on the opportunities and challenges of supercomputing. The SAHPC Forum creates national "critical mass" that enfolds local HPC communities in Saudi Arabia, facilitating exchanges and fostering new collaborations in business, research, and education. It also helps develop a national identity for the Kingdom as an emerging international power in supercomputing.

#### Mobilink accused of PKR 300 mln tax evasion - report

Pakistan's Federal Board of Revenue (FBR) claims Mobilink has deliberately attempted to evade duty/taxes worth PKR 300 million, reports the Daily Times, citing unnamed sources with knowledge of the matter. According to the same sources, "Mobilink has imported 'Lead Acid VRLA Batteries for Telephone Exchanges' and tried to evade duties/taxes by misdeclaring these multi-purpose batteries under incorrect Pakistan Custom Tariff (PCT) heading". The sources claim that, during the scrutiny of import data of 'Lead Acid VRLA Batteries for Telephone Exchanges' falling under

PCT heading 8507.2010, chargeable to Custom Duty (CD) at 10%, it has been observed by the Customs Directorate of Post Clearance Audit (PCA) that certain mobile communication companies have imported multi-purpose batteries, evidently not for use in telephone exchanges under this PCT heading, while such batteries are correctly classifiable under PCT heading 8507.2090 chargeable to customs duty at 20 percent. Thus, by misdeclaring these multi-purpose batteries under PCT heading 8507.2010, Mobilink has made a deliberate and willful attempt to evade duty/taxes, the PCA said. The FBR has submitted a contravention report on the importer, stating that Mobilink is required to pay PKR 300 million short paid duty/taxes within given period. Mobilink has been invited to provide self-explanatory written clarification along with supporting documents.

## Omantel becomes 1st GCC operator to land an undersea cable in Europe

Omantel announced the successful landing of the Asia Africa Europe-1 (AAE-1) cable system in the French city of Marseille. Spanning approximately 25,000km, the AAE-1 submarine cable is one of the first unique cable systems to connect Hong Kong to Singapore, Africa and Europe, all via Oman. The cable will provide an alternative and low latency short route between Hong Kong, Singapore and Europe while covering close to 50 per cent of the world's population, an Omantel statement said. Commenting on the achievement, Omantel CEO Talal Said al Mamari said, "The decision to join hands with Marseille to become the landing site for AAE-1 was an easy one as the city is a critical telecommunications connectivity hub, a key trade port and an entry way into Europe." "This achievement would not have been possible without the support of the city of Marseille. To land a cable of this magnitude requires permits and regulatory approvals from many areas within the government. Our experience of Marseille is a city that is professional, business oriented and one that welcomes foreign investment," Mamari added. The AAE-1 landing was made possible through the creation of Omantel France, an Omantel subsidiary company tasked with ensuring that the AAE-1 cable

system is able to deliver seamless connectivity between Europe, the Middle East, and Asia while offering operators an alternative access point in Europe. Oman's leading telecom service provider's carrier-neutral landing facilities and new data centers in Marseille give carriers competitive access to and from Europe via the AAE-1 cable system. Network operators arriving in Europe or seeking to access to undersea cable infrastructure are often faced with expensive backhaul and interconnect costs due to monopolistic pricing. Operators in Europe that need to connect their networks to a landing station usually have no alternative but to pay, the statement said. Sohail Qadir, VP of the wholesale unit at Omantel, said, "As the first GCC operator to land a submarine cable in Europe, we are thrilled with the successful execution of this project, especially given the landing of the AAE-1 cable was concluded ahead of schedule."

## Pakistan to auction 850 MHz spectrum ahead of 1.8GHz band

Pakistan's Finance Minister approved a proposal to auction off the 850MHz band before holding an auction for the 1.8GHz spectrum that was unsold in the 4G sale in 2014. Finance Minister Ishaq Dar, who chaired a high-level telecoms meeting, agreed that an appropriate amount of spectrum needs to be made available to the telecoms sector, the Pakistan Observer reported. No date or quantity was set for the proposed auction. The meeting reviewed the spectrum demand outlook, while also considering the Pakistan Telecommunication Authority's (PTA) market assessment report prepared by an international consultant. The consultant hired by the telecoms regulator reported in December that the market is not ready for another auction. It found mobile operators are struggling with low margins and aren't interested in investing in the spectrum within the next 12 months. The operators also complained about high taxes, low return on investments and weak economic growth. The finance ministry pushed PTA to hold the auctions twice last year, but both times the sale was pushed back after all five operators said they would not participate.

## Bay of Bengal Gateway launched

The Bay of Bengal Gateway (BBG) consortium has announced the launch of the 8,100km cable system linking Southeast Asia with the Middle East. The 100Gbps BBG cable connects Malaysia with Oman, with landing points in India, Sri Lanka and the UAE. Consortium members include India's Reliance Jio Infocomm, Malaysia's Dialog Axiata, Telekom Malaysia, Vodafone, the UAE's Etisalat and Omantel. Hong Kong-based PCCW Global has meanwhile announced it has signed an agreement with operators in MEA to build a subsea cable system connecting Africa with the Middle East and South Central Asia. Under the proposed agreement, PCCW will form a consortium with South Africa-based MTN, Saudi Telecom Company, Telecom Egypt and Telkom South Africa to build the new Africa-1 cable. Africa-1 will have an at least three fiber pair core that spans more than 12,000km across Africa's east coast, with up to an additional 5,000km for branches. The operators plan to sign a construction and maintenance agreement for the cable by June this year, and aim to have the cable ready for service by the third quarter of 2017. Finally, Huawei Marine Networks revealed it has achieved a record transmission distance of up to 627km with a 100G ultra-long unrepeaters system during a laboratory test in Beijing. The cable configuration, which uses Huawei 100G technology, could potentially help cut down on the cost of subsea cable networks by reducing the need to install and maintain repeated systems, the company said.

## Demand for Industry Status for Telecom Increases

The Overseas Investors Chamber of Commerce and Industry (OICCI) has proposed Federal Board of Revenue (FBR) Government of Pakistan to give industrial status to the telecom sector with abolition of SIM taxes, sales tax on import of handsets and IMEI tax, reduction in advance tax rate to 5% and FED rate be aligned with other services @ 16% in budget (2016-17). OICCI has submitted several proposals to FBR regarding telecom sector, a copy of which is available here with this correspondent. It states:

### Status of Industrial Undertaking to Telecom Industry:

[Income tax Ordinance, 2001: Section 148]: Telecom companies have not been declared industrial undertaking under income tax law. The tax paid at the time of import of telecom equipment @ 5.5% is considered as final tax rendering it un-adjustable against final tax liability. This issue has arisen because telecom companies have not been declared as industrial undertaking as per income tax law. The telecom companies are industrial undertaking under telecom policy but not under income tax law. Federal Finance Minister has verbally agreed with all the mobile operators regarding grant of industry status in his various meetings during 3G auction. Ministry of IT and Ministry of Industries both have granted the status of industry to mobile operators still FBR has not granted the status of industrial undertaking to Cellular Mobile operators.

### Recommendation

Telecom companies should be declared as industrial as they are not commercial importers and telecom equipment imported is used in the network to provide telecom services rather than for further sale. Therefore tax paid under section 148 should be considered as advance income tax rather than final tax.

### Rationale or benefit

Fixed tax on import of telecom equipment increases the cost of network, an additional barrier to mobile network coverage in Pakistan. The roll out of 3G network is still very much at the early stages and it is the key to development of the market that operators are able to sustain the necessary investment.

### Sales Tax Act, 1990: Ninth Schedule

There are multiple taxes on SIMs and handsets in the form of sales tax on import of local supply, sales tax on supply of SIMs and IMEI tax. In Finance Act, 2014 FBR has imposed sales tax @ PKR 250 per SIM card on supply of SIM cards. Also FBR has imposed sales tax on import of local supply and IMEI tax on handsets ranging from PKR 300-1000 per mobile.

### Recommendation

The imposition of multiple taxes on SIMS and handsets directly restrict the investment in telecom sector. Especially after auction of 3G license heavy taxation is restricting the investment in infrastructure. Therefore it is recommended that taxes like SIM taxes, sales tax on import of handsets and IMEI tax should be abolished.

### Rationale or Benefit

The Ministry of Finance has already seen some of the benefits of rebalancing mobile specific taxes. The SIM activation tax was reduced from PKR 2,000 to PKR 1,000 in 2004, then again to PKR 500 in 2005 and to PKR 250 in 2009. Finally it was abolished in 2005. During the same period, mobile penetration increased notably since 2004, together with government tax revenues from mobile. By reducing taxes on mobile sector, the MoF cannot only increase digital and financial inclusion and economic growth, but also recover higher tax revenue through more efficient and broad-based taxation in coming years. Customer taxes:

Telecom industry is one of the highest taxed industries in Pakistan and is 4th worldwide. In Pakistan taxes on telecom industry account for over 30% of the total cost of mobile ownership, significantly above the regional average. This additional cost is a barrier to affordability of mobile services and limiting access to the mobile services for many Pakistani.

### Following taxes are currently applied on telecom subscribers:

18.5% FED on telecom customers  
14% advance tax on consumption of telecom services

### Recommendation

FED rate should be aligned with other services @ 16%  
Advance tax rate should be reduced to 5%

### Rationale or benefit

By reducing taxes on mobile sector, the Pakistani government cannot only increase digital and financial inclusion and economic growth, but also recover higher tax revenue through more efficient and broad-based taxation.

### Eliminate Custom Duties and Sales Tax on Network Equipment SRO 575:

SRO 575 has been rescinded in finance act 2014-15 consequently customs

duties on network equipment have been increased from 5% to 15-20% and exemption of imported equipment from sales tax has been removed. The increase in custom duty has affected the telecom industry negatively in term of slow investment.

### Recommendation

SRO 575 should be reinforced and exemptions of reduced Custom duty zero sales tax and should be provided.

### Rationale or benefit

Restoring the previous SRO 575 would make investment in essential network rollout and quality improvements more affordable.

As sales tax is charged in VAT mode which is recoverable as input tax adjustment so restoring the SRO 575 will not reduce sales tax revenue of Govt. in fact it will reduce administrative complexity for the government and operators.

### MEA mobile market is highly data-driven

"The mobile markets in Middle East and Africa (MEA) are highly connected, young, and extremely data-driven,"



said Mikkel Vinter, CEO and founder of Virgin Mobile Middle East and Africa (VMMEA). He said, VMMEA enjoys a big share of 2.5 million customers now use its mobile telecom services, bolstering its position as the fastest growing in the region. He said, "It is fantastic that millions agree we are making mobile better with digitally-driven and customer-centered offerings." He further mentioned, "Market dynamics in this region are moving so quickly. In the Gulf region, in particular, there is an increasing focus to the customer experience both via traditional and digital channels." "The swift and sustained adoption of VMMEA services

signals that as a Group we are well positioned for this change." Within the next five years VMMEA intends to strengthen its market-leading position across the region, with an ambition to serve more than 10 million subscribers within 5 years. It may be mentioned that VMMEA has been active in the region since 2006, and operates the two consumer brands of Virgin Mobile and FRIENDi Mobile.

## Lebanon launches two fiber optics centers

Telecom Minister Boutros Harb inaugurated two fiber optics stations in Rabieh and Serhal hospital and promised to spread this new service to Beirut and other regions soon. Harb said the new fiber optics stations are part of his plan to upgrade the internet service to all of Lebanon by 2020. A fiber optic cable consists of a bundle of glass threads, each of which is capable of transmitting messages modulated onto light wave. "What we did today is one of the first steps in the 2020 plan which calls for installing fiber optics in all of Lebanon," the minister told reporters after the inauguration ceremony. Ogero and Telecom Ministry technicians built cabinets that resemble electricity transformers and placed between the distribution centers. The cables were stretched over an area of 8,000 meters, 4,000 of which was in Rabieh and the remaining 4,000 to Serhal hospital. The technicians and engineers will conduct tests to determine the speed of the fiber optic cables. The fiber optic cables will increase bandwidth from the current speed of 1 megabit per second to over 25 megabits per second. "Our ambition is that each individual will have minimum speed of 2 megabits per second and it could reach up to 85," Harb said, adding that the new service would be available in Beirut next week. "I have promised that in 2020, every last house in every last village and every Last Mountain and valley will enjoy Internet through fiber optics," Harb said. But it is not clear if the fiber optics service will become available to citizens any time soon. Basically, the Telecom Ministry plans to provide this service to government institutions, universities and large firms in the first phase. A worker at one of the Internet service providers told The Daily Star it was not clear when DSL subscribers would benefit from the fiber optics service.

"They [technicians] have to guarantee enough broadband with huge capacity in order to benefit from the fiber optics service. It all depends on the capacity of the Internet cables. If the cables are large then the subscriber will enjoy faster Internet in the future," he explained. Harb said DSL would soon be available in Baalbek and large areas in the Bekaa, south and the north. "We are not joking. We are working. Anyone who wants to waste our time let him not do that with the ministry," Harb told critics of his plan to install SDL all of Lebanon.

## Banglalink inks infrastructure sharing agreement with Summit

Bangladesh's second largest mobile operator by subscribers, Banglalink, has signed an infrastructure sharing agreement with Summit Communications, under which Summit will lease fibre capacity to Banglalink on certain domestic routes and in exchange Banglalink will lease fibre capacity to Summit on other routes. Banglalink said in a press release that the arrangement will strengthen its network by providing fibre redundancy in certain areas and improve network service availability for Banglalink subscribers, while Summit will be able to offer more transmission bandwidth to other telecom operators using Banglalink fibre in specific areas.

## PTA Invites Written Comments on the Proposed Merger of Mobilink and Warid

On December 15, 2015 Pakistan Mobile Communications Limited (Mobilink), and Warid Telecom (Private) Limited filed a notification of proposed change in substantial ownership interest of Warid, and the request for permission of merger between Mobilink and Warid

before Pakistan Telecommunication Authority (PTA). In this regard, PTA has notified in newspapers and invited all the telecom consumers, stakeholders, interested or affected persons and the general public to submit their written comments regarding the subject merger to the Director General Commercial Affairs, PTA Headquarters, F-5/1, Islamabad. Comments can also be sent on comments@pta.gov.pk. The comments must reach till April 22, 2016 on these mentioned addresses so that PTA can act while keeping in view the concerned parties regarding the approval of Mobilink-Warid merger. An information document for the general public which covers major aspects of the proposed merger is available on website.

## Omantel posts Q1 revenue growth of 4.7%

Oman Telecommunications Company (Omantel), the Sultanate's incumbent telecoms operator, has announced its preliminary unaudited financial results for the first quarter of 2016, reporting revenue of OMR135.5 million (USD350.9 million), an increase of 4.7% from OMR129.4 million in the year-ago period. Growth was driven by the firm's domestic operations, which saw a 5% year-on-year rise in turnover, mainly contributed by revenues from fixed and mobile broadband services and submarine capacity sales. Group EBITDA totaled OMR70.4 million for the first three months of 2016, up by 8.2% from OMR65.1 million in 1Q15, while net profit grew 0.6% year-on-year to OMR34.8 million.

## Iran's TCI modernizes networks with Italtel

Italian vendor and systems integrator Italtel has signed a memorandum of understanding (MoU) with Telecommunication Company of Iran (TCI) to develop and modernize TCI's telecom network. The exact services covered under the MoU have not been disclosed, although in its press release Italtel highlights its credentials in the fields of Network Functions Virtualization (NFV), managed services and all-IP communication solutions. Italtel CEO Stefano Pileri said: 'The MoU signed today represents a fundamental



step forward in the cooperation between Italy and Iran and we are proud to be part of this important project. Telecommunications and ICT represent an accelerator for the development of many other areas and the economy in general.'

## UAE, Qatar, China speed ahead in digitization process

The UAE, Qatar and China are leading the developing nations in overall levels of national and economic digitization, according to Huawei's latest Global Connectivity Index (GCI). Around the world, the greatest ICT developments have been seen in broadband coverage and speed with cloud, big data and Internet of Things (IoT) technologies also making headway. Average national connectivity levels are 5% higher than they were in 2015, judging by investment in five technology enablers: broadband, data centers, cloud, big data and IoT, said Huawei. The study looked at 40 indicators that cover the supply, demand, experience, and potential of these technology enablers. The top three developed economies are the United States, Singapore, and Sweden, with the UK moving up to 5th place. In terms of developing nations, UAE was in 19th place, while Qatar was 21st, and China was in 23rd place. Meanwhile, Malaysia jumped four places to 25th in the past year and Indonesia moved up two places to 41st. "Malaysia and Indonesia's gains are attributable to broadband rollout, which in turn influences data centre development," said a statement from Huawei. In spite of its ongoing cable digitization and Digital India projects, India retained its 44th position. The GCI scores continue to show a positive correlation with GDP, however, the extent to which GCI influences gross domestic product (GDP) varies with the stage of digital transformation in each country said the Chinese ICT giant. "A revolutionary shift is occurring in the way the world works, with economies across the planet going digital fast. Nations that are in the early stages of economic digitization should develop long-term technology plans that include broadband and data centers to reap the benefits of enhanced growth,"

said Kevin Zhang, president, Huawei Corporate Marketing. "Developed economies wanting to capitalize on their frontrunner ICT status should invest more in cloud, big data, and IoT technologies and solutions to experience the full benefits of a digital economy." The 50 countries assessed by GCI 2016 account for 90% of global GDP and 78% of the world's population, Huawei added.

## KT and NEC Successfully Test 5G Backhaul Solution Utilizing E-band Spectrum

NEC has announced the completion of a Proof of Concept (PoC) trial with South Korea's Korea Telecom (KT) for a 5G wireless backhaul solution that utilizes E Band spectrum (70-80GHz). The PoC was conducted at Phoenix Park Ski World in PyeongChang, South Korea, using KT's commercial mobile network infrastructure. KT aims to launch 5G trial services in 2018. This PoC is based on a collaboration agreement in the field of 5G networks signed between KT and NEC in August 2015. KT aims to introduce radio transmission using E-Band spectrum in order to establish mobile backhaul networks for 5G services, especially in mountainous areas, where it is difficult to lay optical fibers. E-band spectrum's characteristics, such as wider communications channels, higher linearity and lower atmospheric attenuation compared with other spectrum bands, make it ideal for large-capacity wireless transmission. In this PoC, the iPASOLINK EX, NEC's ultra-compact microwave communications system that operates with E-Band spectrum, was used to interconnect KT's LTE base stations with high-speed and high-capacity wireless links. As iPASOLINK EX supports ultra-multilevel modulation (256QAM) technology, high capacity transmission of up to 3.2Gbps, on par with fiber optic cable, is possible. In addition, its support of narrow band transmission (channel width of 250MHz and 500MHz) enables telecom operators to efficiently utilize the frequency bands assigned to them. "We are honored to have contributed to KT's 5G-related trial," said Hideyuki Muto, Deputy General Manager, Mobile Wireless Solution Division, NEC Corporation. "NEC's iPASOLINK EX can operate in harsh environments, and is easy to install at various outdoor

locations without large scale installation works because it is compact and light weight. This joint PoC took advantage of these features in order to implement a high-capacity mobile backhaul network in snowy, mountainous areas very quickly. Going forward, NEC will strengthen its partnership with KT to contribute to the launch of their 5G trial services in 2018."

## Operator's branchless banking arm to launch payment mechanism for dairy farmers in Pakistan

Providing financial access to thousands of Pakistani dairy farmers, Easypaisa has collaborated with Nestlé Pakistan to make disbursement of milk collection payments swift, easy, and transparent. The partnership will also feature an awareness campaign for farmers where Easypaisa will train them to take full advantage of the Easypaisa mobile account services including savings products and mass market health and life insurance. Under this partnership, Easypaisa is providing Telenor SIMs and registering Easypaisa mobile accounts for around 15,000 farmers across Pakistan to transfer funds into their accounts on a weekly basis. For convenience, Easypaisa ensures delivery of the payment to the farmer's Easypaisa mobile account that they can withdraw from the nearest Easypaisa retailer. This will be a relief for the dairy farmers since they will not have to carry cash to their homes from the milk centers and be in a vulnerable position of being robbed or travelling long distances to collect their hard earned money. Food & Agriculture Organization of the United Nations lists Pakistan as the fourth-largest milk producing nation in the world with its dairy industry being a major contributor to the GDP. Every year, Nestlé pays over PKR 22 billion for milk sourcing in Pakistan; around 150,000 dairy farmers supply close to half a billion tons of milk a year through Nestlé's chain of over 2,500 milk collection centers. Prior to Easypaisa's collaboration with Nestlé, most of the dairy farmers received their payments in cash from the supply agent routed via the traditional banking channel. On the collaboration, Muhammad Yahya Khan, Chief Financial Service Officer, Telenor Pakistan said: "This partnership is a true demonstration of Easypaisa's vision to empower people by making financial services available. We are proud and

humbled to be facilitating the farmers with convenient financial services and encouraging them to increase their production. We hope through this collaboration, we help Pakistan become the largest milk producing nation in the world." "Nestlé is excited about entering into an agreement with Easypaisa for payment to our farmers," said John Davis, the Head of Finance and Controls for Nestlé Pakistan. "This will allow the farmers to be paid through a mobile account and the farmers can withdraw cash from any of the Easypaisa outlets at their convenience. Apart from speedy, direct and transparent payment to the farmers, it opens the doors of mobile financial services for them." Telenor Pakistan has a customer base of 36 million. Easypaisa, the branchless banking solution, has 20 million customers who conduct over 650,000 transactions every day. Easypaisa's first disbursement is scheduled in April 2016 and is expected to channelize more than PKR 1 billion to the farmers annually.

## Saudi smart city to emerge in 2018

Zain KSA and Nokia have signed a Memorandum of Understanding (MoU) to collaborate on a major initiative that will transform Jeddah, one of the Kingdom of Saudi Arabia's (KSA) largest cities, into a model for smart cities in the country and worldwide by 2018. Under the MoU, Nokia and Zain KSA will apply advanced networking technologies in the Internet of Things (IoT) and the Cloud to connect and manage a wide array of devices, vehicles, homes and applications. Use of these technologies will improve municipal services, enhance the business climate in Jeddah and create a better quality of life for the city's nearly three million residents. Zain and Nokia will also employ advanced network and customer experience management tools to ensure smooth and seamless operation across the objects and locations. To ensure privacy and fulfill public safety requirements, the companies will place a strong focus on the reliability and security of the network. Over the course of this two-year plan, the companies will enhance the network capacity, accessibility and efficiency of Zain KSA's mobile broadband network in Jeddah, eventually leading to 5G access, while

also expanding the utilization of small cells and Wi-Fi to ensure continuous connectivity throughout the city. Sultan AlDeghaither, Chief Technology Officer, said: "Jeddah is the second biggest city in Saudi Arabia - and thanks to our collaboration with Nokia, it will also be a smart city. Introducing IoT to all walks of life is a top priority for Zain KSA, and Nokia's Smart City solutions will provide us with a framework for enriching the lives of the people in Jeddah." Ali Aljittawi, Head of Zain KSA Customer Team at Nokia, said: "The world is becoming more urbanized, with exponentially more connected devices. For every device connected to the Internet today, 10 more will join it in the near future. Through IoT and smart city concepts, we can automate our lives by connecting mobile devices to appliances, lights, roadways and just about everything - a shift that will improve efficiency and enable economic, social and environmental sustainability. We believe that the Jeddah Smart City concept can be a model for smart cities not just in the Kingdom, but across the region and the world."

## North African operator opts for next-generation customer loyalty solutions and services

Evolving Systems, Inc., a leader in real-time activation, analytics and marketing for connected mobile devices, today announced that a large wireless operator in North Africa has selected Evolving Systems to provide expertise for their Real-time Lifecycle Marketing™ (RLM) Customer Loyalty solutions. Due to the business criticality of the RLM customer loyalty solution, this operator opted to extend their contract for a dedicated team of experts from Evolving Systems to review and monitor their customer loyalty campaigns, and to assist in planning new campaigns. This team will ensure that the customer loyalty programs are as successful and responsive as possible, reducing subscriber churn and increasing revenue. Operators today face a highly competitive industry marked by continuing change. In this business climate, customer loyalty becomes vital to growing revenue and achieving profitability. Next-generation loyalty solutions and services can reduce churn, accelerate customer growth,

and drive revenue growth per subscriber, all of which translates into a strategic competitive advantage. The keys to success are the speed-to-market to launch new campaigns and promotions, loyalty concepts, as well as analyze existing campaigns in real-time and refine or adjust them to ensure optimal performance. "It is critical that operators retain their subscriber base and increase ARPU to the greatest extent possible, and the RLM Customer Loyalty solution supports operators in doing just that. This solution engages subscribers in new and increased services and also gives them 'points' that they can use for even more savings," said Thomas Thekkethala, President and CEO at Evolving Systems. "This order not only enables us to continue providing the kind of expertise we've delivered in the past, but it extends those services that our customers are finding to be of great value in our RLM customer loyalty solution."

## Misr Insurance renews Etisalat Egypt's \$901 million policy

The leading insurer in MENA region, Misr Insurance Company has renewed an insurance policy for the Egyptian arm of UAE telecom operator Etisalat. With a total sum insured up to 8 billion Egyptian pounds (US\$901 million), the policy is tailored for Etisalat Misr's assets and properties, Insurance's division manager, Hossam Hefnawy told Amwal Al Ghad by phone Sunday. The policy is a one-year renewable term, involving an insurance coverage for Etisalat Misr's administrative building in Downtown area alongside other locations, electronic devices, and vehicles of all dangers arising out of fire, burglary, and other risks, he added.

## PTA Launches Mobile App Awards Pakistan of 2016

Pakistan Telecommunications Authority (PTA) together with Internet Society (ISOC) Bureau, Telenor Pakistan, National ICT R&D Fund, Ministry of Information Technology, Special Talent Exchange Program, Pakistan Foundation Fighting Blindness, Pakistan Blind Cricket Council and Pakistan Youth Foundation of Deaf and Hard of Hearing has launched the 2016 edition of the Pakistan Mobile App Awards. The theme for this year's

awards is: "Embracing Mobile Accessibility for Persons with Disabilities in Pakistan" aimed to focus on development of ready-to-use mobile applications addressing needs of Persons with Disabilities (PWDs) in Pakistan. As per independent International sources, 10 to 15% of Pakistan's population consists of Persons with Disabilities; depicting approximately 20 to 30 million people face some form of disability. Speaking at the launch ceremony, Dr. Syed Ismail Shah, Chairman PTA said "I'm hoping that there will be support for this cause from all across Pakistan as work on accessibility does not stop with mobile applications. There is so much more that can be done in this field and it all begins with an understanding of the needs of Persons with disabilities." He further said that when he approached the MoS IT Honourable Anusha Rahman Khan for inclusion of PWDs in the upcoming IT policy, she immediately agreed and instructed the relevant officers to include the PWDs as a stakeholder group. Giving the details of the awards, Muhammad Shabbir from ICT Accessibility Group said that "The 2016, Mobile App Awards will allow us to harness the power of technology to promote inclusion and accessibility in order to help realize the full and equal participation of persons with disabilities in the society". DG Human Rights, Ministry of Law and Justice, Mr. Hassan Mangi, also present on the occasion, remarked that "all UN conventions talk about Human Rights but there is no national body in Pakistan that takes into consideration matters revolving around people with disabilities. This initiative is therefore very crucial and extremely timely" Syed Raza Shah, Member IT, Ministry of Information Technology informed about some recent discussions held at the Ministry on the subject of 'Web Accessibility'. He emphasized to include the matter in the upcoming IT policy of Pakistan on the instruction of MoS IT, while appreciating the support provided by the ICT Accessibility Group. He also mentioned that efforts are already underway to make Ministry's website more

accessible and inclusive. "ICT is the most important ingredient in making a society accessible in all fields of life. Pakistan is one of the leading countries working in the area of ICT accessibility and we hope that this initiative will act as a benchmark for further projects in the country" Mohammad Atif, Director, Special Talent Exchange Program (STEP) said during the launch. During his closing remarks, ISOC Asia-Pacific Bureau Director, Rajnesh Singh appreciated the support provided by local organization(s) to ISOC in Pakistan. On the 2016 mobile awards, he said that "the support and the interest from various stakeholders make these awards unique in nature and probably first of their kind in the region. Recently, there is a lot of energy being diverted towards. ICT Accessibility in Pakistan but to ensure the success, we have to make sure that this work continues and brings results". The ceremony concluded with a Q&A session; the participants applauded the awards launch and gave some useful suggestions for achieving 'mobile accessibility' goals.

### STC chief urges Saudi infrastructure push

Khaled Biyari, STC Group CEO, believes investment in infrastructure will be key to achieving the government's ambitious plan to digitize Saudi Arabia. The government is reportedly moving to reduce its heavy reliance on the oil sector, where prices have plummeted, and unveiled plans at the start of the year to invest into different sectors, with information technology earmarked for growth potential. Biyari, speaking to Mobile World Live, said the government has committed to digitizing the country, with the role of STC, and other operators, "vital" in ushering a period of transformation. "To digitize a nation, you really need to have the right infrastructure, and on top, you typically need enablement platforms," he said. "Services like cloud, IoT and cyber security help us to work in different verticals like health and education." To that end, Biyari revealed in the interview that the country's largest mobile operator had invested heavily over the last couple of years in integrating advanced technology platforms within its existing telecoms infrastructure, providing partners with a range of new services.

### Once a Bright Spot, Afghan Telecoms Face Unsustainable Losses

Men thread their way through this city's traffic jams, hawking streamers of phone cards. Others stand behind crude wooden tables selling cheap Chinese-made mobile phones. Throngs of people navigate the sidewalks and streets with cellphones pressed to their ears. The boom in cellphones here has made the Afghan telecommunications industry one of the few bright spots in a moribund economy savaged by war, political gridlock and an exodus of money and people. Cellphones pumped \$148 million into the economy last year. The industry was also the largest private employer, supplying 140,000 jobs, a feat in a country with 25 percent unemployment. But even that success is now looking shaky. The Afghan government has again increased taxes on the industry to replenish its coffers; cutting into the industry's shrinking profits. And the country's telecom companies are competing for a dwindling pool of customers after the drawdown in American and coalition troops and contractors. "The success that was is no longer there," said Karim Khoja, the chief executive of Roshan, one of the largest Afghan telecom companies. "The economics keep making it more and more difficult." The explosion in cellphone use is remarkable in a country where most people did not own a phone before the American-led invasion in October 2001. The nation's telecommunications infrastructure fell into disrepair under the Taliban from lack of investment. With few phones, most people had to walk into Tajikistan or Pakistan or use satellite phones to call their relatives in the Afghan diaspora. After the September 11 terrorist attacks and the start of the war, Afghan Wireless, a joint venture with the government, opened, and Roshan began a year later. Inspired by Roshan's growth, three other players jumped into the market. Over the last decade, the companies have invested over \$2 billion in the country, much of it in infrastructure like cellular towers. In this country of 32 million people, around 75 percent are now cellular service subscribers. And the cost of a call has plunged sharply.

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service subscribers. And the cost of a call has plunged sharply.

## Next-generation ICT services for transportation in Qatar

Ooredoo and Qatar Railways Company (Qatar Rail) yesterday signed a memorandum of understanding (MoU) to establish a collaboration framework to provide next-generation ICT solutions for the design, construction and operation of the Qatar Rail Development Program (QRDP). The MoU was signed by Ooredoo Qatar CEO Waleed al-Sayed and Qatar Rail CEO Dr. Saad al-Muhannadi at a ceremony attended by senior executives from both companies. Qatar Rail is currently driving the development of one of the largest rail projects in the world, and the technology agreement is one of the most far-reaching and comprehensive ever agreed by a leading ICT provider and a rail infrastructure developer. The agreement positions Ooredoo as the primary ICT solutions supplier for the QRDP. It will support the provision of next-generation ICT services and infrastructure across the Qatar Rail network. Upon completion, citizens, residents and visitors to Qatar will all benefit from a range of communication services provided both on-board and at stations. In addition, the ICT services will provide vital connectivity during the development phase of each of the essential national projects. Al-Sayed pointed out that Qatar Rail is leading one of Qatar's "foremost projects", creating a national railway network that will support the National Vision 2030 and deliver incredible benefits to the people and future generations. "By integrating a full collaboration framework into the development plan, we will ensure that Ooredoo provides world-class technology and networks at every stage of the roll-out and deploy smart technology that enabled significant environmental and financial benefits," he said. Dr. al-Muhannadi said the agreement would bring the full benefit of world-class technology and cutting-edge networks to Qatar Rail projects and ultimately to the customers who travel on the national rail system. Under the terms of the agreement, Ooredoo will provide Qatar Rail with the latest infrastructure and solutions, including fixed and wireless connectivity services. In addition, the agreement will support the development of dedicated

smart solutions for managing rail transportation, including full control centre functionality and data centre services. The agreement is designed to support Qatar Rail's vision to provide customer-centric integrated railway services that are accessible, efficient, safe and reliable while maximizing social, economic, and environment benefits. Ooredoo has demonstrated its experience and expertise in connecting Qatar with world-class ICT infrastructure on major national projects, including Lusail City, Hamad International Airport, Katara and Souq Waqif.

## Cloud Computing on Rise in Pakistan, Says Oracle

From the Year 2013, Pakistan's information communications and technology (ICT) has shown a remarkable boom. With an emergence of enterprise cloud offerings, a pace of change and growth can be observed. Along with the technology, mobile phone usage in the country is showing a steady growth. According to the report of year 2013, Pakistanis are among the highest SMS users in the world and the average Pakistani sends up to 178 text messages in a month. As Cloud computing is providing cheaper and cost effective automation, data management, analysis and services to the businesses globally as well as in the Pakistan. The Oracle Country Sales Manager Pakistan and Afghanistan Waqas Hashmi predicted the bright future in Pakistan. He also said that this is a great time for cloud in Pakistan. He further added that the cloud provides access to big data and give corporations a deeper understanding of their customers. It also provides the best ways to run the business along with benefiting all types and sizes of companies. "Small companies can launch into the cloud immediately, gaining access to enterprise class solutions, while medium-sized businesses can get an integrated set of software in the cloud, According to Waqas Hashmi, it is important for companies to thoroughly investigate the fundamental aspects such as data security and management capabilities. During the interview he explained the present and future working scenario with regard of SaaS and PaaS. For SaaS he explained that; "Using SaaS is a great start, but where companies gain real competitive differentiation and

advantage is customizing aspects of the applications to their own requirements, while Platform-as-a-Service (PaaS) offers businesses with some other key advantages. But the critical area about them is the developing and testing of applications.

## Omani Qatari Telecommunications SAOG: Ooredoo Offers First Cloud Based Collaboration Service in Oman

Ooredoo Business customers can now stay continually connected with geographically dispersed audiences, using Ooredoo's Conferencing Services; the company's first cloud based virtual collaboration solution. The new service provides users in Oman with an unmatched online meeting experience through high quality audio and HD video capabilities all on a safe and secure platform. The Conferencing Service offers small to large businesses the freedom and flexibility to establish a telepresence to allow them to benefit from direct interactions with partners, clients, decision makers, and employees, thus eliminating costly travel. Offering a broad range of voice, web and video conferencing features, the cost-efficient service can be used on various platforms 'Hosted communications is one of the fastest growing technologies, dramatically changing the way companies do business,' said Said Al Shanfari, Director of Business Marketing at Ooredoo. 'Staying connected is an essential part of modern business life, which is why we launched a service that delivers a consistent globally-connected experience to startups and large corporations alike, significantly reducing travel time and costs. This value added service can boost productivity across the board with enhanced, real time collaboration aligning local, regional, stakeholders anytime and anywhere.' 'In times of disruptive innovation, value is migrating rapidly from conventional telecom services to hosted collaboration and cloud based services. In order to keep abreast with the global

trends and standards, we are glad to introduce our first cloud-based business collaboration service in Oman.

## Technology startup sector in MENA grows by ten-fold

The technology entrepreneur sector in the Gulf Cooperation Council (GCC) countries has grown by over 10-fold since the nascent venture capital industry emerged four years ago, allowing for more and better quality investments in promising startups, according to BECO Capital, a venture capital firm that provides early stage growth capital and hands-on operational support for technology companies in the MENA region with a focus on the GCC. Dany Farha, co-founder and CEO of BECO Capital who is speaking at STEP Conference today (Monday), said: "We waited four years for the VC ecosystem to mature in quality and quantity to enable us to make a higher number of investments at the seed stage. We saw our deal flow grow exponentially year-on-year for the past four years, so we scaled our raising and deployment in parallel with the growth in startup activity. The same needs to happen at the angel investment stage so the whole value chain is working together to be appropriately funded, otherwise it will reach a bottleneck." "We are at a stage where additional regional pre-Venture Capital money should enter into the space and a diverse pool of entrepreneurs have to come forward with quality innovation and problem-solving ideas for investments. At the moment, we see funding in the middle of the chain at the micro-VC, VC and Private Equity levels." "More needs to be done at the angel, incubator and accelerator level, and entrepreneurs must lead this revolution. We ought to ensure that there is enough support for innovation in startups. We are feeders in the ecosystem and entrepreneurs are the drivers," he pointed out. "Unless the full investment cycle matures in the MENA tech startup sector, the business cycle for SMEs will suffer. However, when it does, the entire value chain will grow to a size where institutional investors and Sovereign Wealth Funds (SWFs) can start deploying to the VC asset class." Dany Farha believes that all sub-sectors in the value chain need to be invested in at the same pace and move together. "They are inter-connected and the growth of

every part of the value chain should be going at the same pace as the rest and pass through to the next level," he continued. At the VC level, there is still enough dry powder waiting to be deployed and more funds are currently being raised for additional investments. Today, each of the big VC companies is looking at an average of 1000 potential investments, and will typically invest in less than one percent of those. "So each one of the main VC players can now make close to ten investments a year in early stage companies. This will start creating the impact we dream of." New angel and accelerator money is coming through, driven by governments, especially in the Gulf Cooperation Countries, looking to trigger a major shift towards knowledge economy. As a result, they are supporting the tech startup ecosystem at the incubator stage through government and semi-government initiatives. Recently, the United Arab Emirates has surpassed Norway, South Korea, Turkey and Japan to be ranked 19th in the 2016 Global Entrepreneurship Index. It placed the country at the top of 15 Middle East and North African countries. Such economic diversification strategies are already paying dividends, with hundreds of quality tech startup coming online in Saudi Arabia, the UAE, Jordan, Egypt and Lebanon in particular.

## PEMRA grants mobile TV license in Pakistan

Pakistan Electronic Media Regulatory Authority approved grant of Mobile TV (Video & Audio Content Provision) Service License to M/s Convex Interactive (Pvt.) Ltd. Karachi. The scope of Mobile TV licensee will be delivery of PEMRA licensed TV channels and FM radio content. Mobile TV licenses are issued on case to case basis for five years tenure as Value Added Service (VAS). Companies registered with Securities & Exchange Commission of Pakistan (SECP) with minimum paid up capital of Rs 3 million and having prior PTA (CVAS) license are eligible to apply for Mobile TV license. The approval was given in the 111th meeting of PEMRA Authority held under the Chair of Absar Alam at PEMRA Headquarter. The first draft of legal due-diligence report on DTH licensing compiled by PEMRA's legal counsel Justice (R) Ijaz Chaudhary was presented meeting of PEMRA Authority. The agenda was deferred till next meeting. Authority, however, resolved that the DTH

licensing should be expedited without compromising laws and transparency. After assuming the charge, newly-appointed PEMRA Chairman Absar Alam had initiated the process for legal due diligence to avoid anomalies, if any, in the postponed DTH process. PEMRA, in its 107th meeting held on December 4, had decided to defer the DTH bidding. The Authority also gave conditional approval of minimum technical standards/specifications for Digital Set Top boxes which PEMRA has drafted last week in line with the international practices to safeguard the legitimate objective such as quality of service, un-interrupted operation of the equipment, safety and competitiveness. Final specifications would be announced in a day or two after accommodating PTA's input. The technical standards / specifications have been drafted by PEMRA in pursuance to its endeavor to meet cable TV Digitalization deadline of September 30, 2016 and to ensure the maximum facilitation and protection of subscribers' rights.

### Saudi operator assessing offers for tower business

Etihaad Etisalat Co is reviewing offers for its tower business as the Saudi Arabian telecommunications company seeks to become profitable, Chief Executive Officer Ahmad Farroukh said. "We received certain indicative offers," Farroukh said in an interview in Riyadh on Thursday. "If the deal is good for our shareholders, for sure I'll bring it on the table." The second-biggest telecommunication provider in Saudi Arabia is one of several seeking to sell towers as network quality becomes similar across different operators. Digital Bridge Holdings is among the leading bidders for Etihaad Etisalat's tower portfolio, which could fetch as much as \$2bn, according to people with knowledge of the matter. The company owns about 10,000 towers in the oil-rich kingdom. Saudi news website Maaal reported in February that "high-level negotiations" were happening to create a company to own the towers of all three telecommunication providers in the

kingdom, including Saudi Telecom Co. Zain Saudi Arabia is assessing several options for its towers, including selling them for cash and leasing them back or working with competitors to create one tower company, CEO Hassan Kabbani said last week. While Etihaad Etisalat, also known as Mobily, isn't "after a deal for the sake of a deal" the company is keen to sell the towers as they are "not our core business," Farroukh said. "It's a complicated thing. You have to go to each and every of our 10,000 sites, negotiate the rent with 10,000 landlords and have the consent for them to move to the new tower company." The shares of Mobily climbed 3.7% in Riyadh yesterday, bringing their gain for this year to 4.5%. That compares with a drop of 9.3% for Saudi Arabia's benchmark stock index. Mobily, 27% owned by Abu Dhabi's Emirates Telecommunications Group, is recovering from accounting irregularities discovered more than a year ago that cost the company its CEO and billions in market value. The company reported its first quarterly profit in the fourth quarter after four consecutive period of losses. Mobily aims to become profitable again this year, although all telecommunication companies are facing an unexpected challenge from a regulatory requirement to take fingerprints from customers, Farroukh said. The requirement, instituted in January, "in a way limits your growth," he said. "It's a learning curve and we're hoping there will be extensions, but we're working 24/7." The company is still waiting to hear the results of a Capital Markets Authority investigation into the accounting regularities, Farroukh said.

### Middle East's first digital business hub launched

The digital business hub will provide API as a Service and is designed to enable enterprises and Mobile network operators, or MNOs, to transform the way they engage and partner in the digital ecosystem. WSO2, an open source cloud application development and middleware company may soon be expanding in UAE's smart city infrastructure among other key verticals along with Pacific Controls, said Kumi Thiruchelvam, CEO - WSO2. Telco while launching Middle East's first digital business hub on Tuesday in Dubai. "We are proud to have partnered with Pacific Controls to further a digital business hub vision, designed

to accelerate national and regional digital strategies for MNOs, enterprises and digital marketplace. The digital business hub will facilitate exposing of multiple third party API - application program interface is a set of routines, protocols, and tools for building software applications - to accelerate digital innovation. While APIs are the life blood of the digital ecosystem, digital identity management, a key component of the solution, is essential to providing more and more services securely across multiple devices, added Thiruchelvam. The digital business hub will provide API as a Service and is designed to enable enterprises and Mobile network operators, or MNOs, to transform the way they engage and partner in the digital ecosystem. The digital business hub will also contribute towards the acceleration of the on-going transformation of Dubai into the world's most advanced and connected Digital Marketplace. Dilip Rahulan, executive chairman and chief executive officer, Pacific Controls, said: "We are delighted to partner with WSO2.Telco in this advent to accelerate delivery of digital services in the Middle East region. Offered as a platform across the Middle East, the digital business hub will serve as the gateway for innovation, collaboration, entrepreneurial development. Users can experience access to various digital services in a new transformed engagement format which would enable quicker go-to-market strategy." The launch of the Digital Business Hub follows successful WSO2.Telco hub deployments in Singapore and India which currently serve a combined total of over one billion mobile subscribers. The Digital Business Hub in Dubai will be jointly owned by Pacific Controls and WSO2.Telco and will be hosted in Pacific Controls' state-of-the-art Jebel Ali Data centre. The Digital Business Hub incorporates features similar to the other two Hubs, and further provides the ability to connect with the other hubs, making it part of a global ecosystem. Notable features of the Hub are built-in APIs for Operator network services, monetization, and a powerful Identity Gateway which is GSMA Mobile Connect Compliant.



## ▼ REGULATORY NEWS

### Govt. claims 64% of call drops are attributable to telecom companies in India

Indian regulator Trai has come out swinging in the legal battle over the decision to require operators to compensate their users for call drops, accusing telecom operators of behaving like a cartel. In legal arguments opposing a group of operators' request to overturn a court ruling upholding the penalties, Attorney-General Mukul Rohatgi also accused the operators of profiting from call drops, the Economic Times reported. A group of operators have petitioned India's Supreme Court to challenge a previous Delhi High Court ruling into the matter. This verdict upheld the regulator's demand that operators compensate users 1 rupee (\$0.015) per call drop experienced. Rohatgi is representing Trai. The operators have argued that call drops are often outside of their control, and that having to pay compensation will have a significant detrimental financial impact. They have also denied profiting from call drops. But in his arguments, Rohatgi said operators were only investing 5% of their revenue in infrastructure and are only interested in signing up more customers without investing to fix call drops. Rohatgi claimed that 64% of call drops are attributable to telecom companies and only 36% to

user-related issues including low battery. Indian operators have also pointed to spectrum scarcity in a crowded market as a factor behind the call drops. But Rohatgi rejected this argument and claimed that the issue instead relates to inefficient spectrum optimization. Operators have also faced difficulties setting up towers due to a range of issues including fears over radiation. But Rohatgi argued that Indians are exposed to greater radiation level than citizens in other countries and that difficulty setting up towers cannot be used as an excuse for call drops.

### FCC approves Shentel, nTelos merger

Regional US operator Shenandoah Telecommunications Company (Shentel) has confirmed that the Federal Communications Commission (FCC) has approved its proposal to acquire fellow mobile operator NTELOS Holdings (nTelos), as announced on August 10, 2015. Shentel anticipates that the transaction will complete within the next few weeks, subject to the completion of the remaining closing conditions. As previously reported by TeleGeography's CommsUpdate, Shentel's all-cash takeover was valued at USD640 million, of which USD431 million was said to be nTelos' net debt. Concurrent to the merger agreement, Shentel entered into

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a series of agreements with Sprint Corp, including the expansion of Shentel's 'affiliate' relationship with the mobile giant. All reviews relating to the Sprint-Shentel agreement have also been completed. Christopher E. French, Shentel's President and CEO, commented: 'We are pleased to have received FCC approval for our acquisition of NTELOS and the related transactions with Sprint. With the final regulatory approvals received, we look forward to closing the merger and successfully integrating the two companies. This transaction more than doubles Shentel's wireless customer base, enhances our presence in the Mid-Atlantic region by adding a highly complementary footprint and further strengthens our long-standing partnership with Sprint. With the close of this deal, Shentel will be positioned as one of the top six public wireless providers in the United States'.

## Altice fined EUR 15 mln over Outremer Telecom sale

The French competition authority has fined Altice/Numericable EUR 15 million for not complying with several obligations related to its sale of Outremer Telecom in La Reunion and Mayotte, a condition for its acquisition of SFR. When the competition authority granted its approval for Altice/Numericable's acquisition of SFR on 30 October 2014, it required Numericable and Altice to sell Outremer because the combined market share of SFR's SRR subsidiary and Outremer was 66 percent in Reunion and 90 percent in Mayotte. The commitments included maintaining the viability, market value and competitiveness of Outremer prior to its sale. But during the period in which the commitments applied, Outremer's tariffs rose by 17 to 60 percent, giving customers the opportunity to end their plans without incurring any cancellation fees. The authority writes that cancellation rates were three times higher in January 2015 than in January 2014, and constituted a reversal in Outremer's strategy of capturing new customers through aggressive pricing. SFR contests the authority's analysis, arguing that the tariff increases reflected good management and did not change the competitiveness or viability of the businesses sold. The company reserves the right to appeal the decision.

## EU to block Hutchison, O2 UK deal within weeks - report

Hutchison's plan to take over Telefonica's UK mobile phone business is set to be formally blocked by EU regulators within weeks, reports Bloomberg. According to two unnamed sources familiar with the talks, EU anti-trust officials have failed to be won over by Hutchison's offers to sell network capacity to MVNOs, believing this will not create sufficient competition to prevent potential price hikes. Regulators are understood to be holding out for 3 UK/O2 UK to offer to sell part of their network to a new operator. The Sunday Telegraph reported that Hutchison is already preparing to mount a legal challenge to any EU move to block the takeover.

## India rules out retrospective tax on spectrum

The Indian government has clarified that telecom service providers will not have to pay service tax on payments for spectrum purchased before April 1, the Economic Times writes. The Central Board of Excise and Customs (CBEC) stated that payments for spectrum rights, whether upfront in full or in instalments, have been exempted from service tax. The clarification follows the introduction of a provision which made all government services, including auctions, taxable. In the case of spectrum auctions, the new tax would have amounted to retrospective taxation, as it would also have been applicable on deferred payments for airwaves bought before April 1.

## PTA Announces Amendments in Consumer Protection Regulations

Pakistan Telecommunications Authority (PTA) announced amendments in consumer protection regulations. According to the authority the amended in "Telecommunication Consumer Protection Regulations, 2009" are aimed to protect the consumer interests as mandated under the Pakistan Telecommunication (Re-organization) Act 1996. These regulations provide a mechanism with regard to launch of commercial practices and telecommunication promotional schemes by different operators. Following are some of the

regulations to be followed by all the relevant entities.

- Under the amended law, all commercial activities which are against law cannot be launched by operators. They are also required to give at least ten working days notice to PTA before the launch of any promotional scheme.
- Telecom operators will have to inform PTA before launching commercial practices.
- It's binding on operators to follow the prescribed manners by PTA to devise their commercial campaign.
- PTA may alter, restrict, suspend or impose of any commercial activity or telecommunication service promotional schemes if necessary. In that case operator will be responsible to provide title and key features of such activities to PTA.
- Operator will be responsible to provide an undertaking that the commercial practice and their telecom promotional schemes are in compliance with the Act, Rules, Regulations and all other laws of Pakistan.
- Under the new regulation, an undertaking regarding inclusion of key features of the offered telecom promotional schemes in print media which shall be published in at least one national and local-language newspaper each as well as on the licensee's, website in a clear, transparent and nondiscriminatory manner.

These amendments are surely going to safeguard the consumer rights and interests, while the operators are required to facilitate these consumers under these regulations.

## EU Parliament passes data protection rules

The European Parliament this week passed new rules designed to protect consumers' data and privacy. Under the General Data Protection Regulation (GDPR), people will get access to information about how their data is stored and processed, and will have the right to be told as soon as possible when it has been hacked. Businesses will benefit for having a single set of EU-wide rules governing data protection, which will save them an estimated €2.3 billion

per year. Non-EU companies will have to comply with these rules if they want to provide services to EU consumers. Companies that fall foul of the GDPR can be fined up to 4% of their global annual turnover. The new rules were first proposed in January 2012, and after years of negotiation were agreed upon in December 2015. "The new rules will ensure that the fundamental right to personal data protection is guaranteed for all," said a joint statement on Thursday from the European Commission's first vice president Frans Timmermans, Andrus Ansip, vice president for the Digital Single Market (DSM), and Vera Jourová, commissioner for justice, consumers and gender equality. "The General Data Protection Regulation will help stimulate the Digital Single Market in the EU by fostering trust in online services by consumers and legal certainty for businesses based on clear and uniform rules," they said. "The GDPR is a major step towards a real Digital Single Market," said telco lobby group ETNO. "It is now important to work on a proper implementation in view of new digital business models and technologies such as IoT, big data, 5G and connected cars." In addition to the GDPR, the European Parliament also this week passed the Data Protection Directive, which is designed to allow police forces in EU member states to share information more easily by applying one set of rules for the whole bloc, instead of 28 separate sets of rules. "Having more harmonized laws in all EU member states will make it easier for our police forces to work together," the EU Parliament said.

## EU Parliament approves data protection legislation

The European Parliament has approved new data protection legislation in the EU, bringing to an end four years of negotiations on reforming the data protection directive dating from 1995. The General Data Protection Regulation introduces, among other things, a "right to be forgotten", where personal data no longer in use or relevant must be deleted, as well as the right to transfer personal data to a new service provider. Organizations will need to obtain a 'clear and affirmative consent' from individuals before processing their personal data, explain in clear language their privacy



policies and inform people when their data has been hacked. National data protection regulators will also have more powers of enforcement, including the ability to issue fines of up to 4 percent of a company's global annual turnover. The legislation passed by parliament also includes a Data Protection Directive governing the handling and transfer of personal data by law enforcement authorities, including across EU borders. EU states will have two years to transpose the new rules into their national laws, with certain opt-outs in the UK, Ireland and Denmark.

## China to invest in rural broadband to boost e-commerce

China plans to allocate additional funds to rural areas to improve the internet infrastructure and extend broadband connections to promote e-commerce and boost trade. A government program aims to integrate the internet with the logistics sector to reduce costs, increase profits, stimulate consumption and boost employment, according to a statement by the State Council's executive meeting, chaired by Premier Li Keqiang. The State Council is China's Cabinet. China has 195 million internet users in rural areas, accounting for 28 per cent of the country's total, according to the China Internet Network Information Centre (CINIC). The number of rural citizens last year grew 9.5 per cent last year, almost double the rate for urban internet users. E-commerce giants such as the Alibaba, JD and Suning Electronic are expanding into rural areas as markets in first- and second-tier cities become saturated, China Daily reported. But China ranks 91st out of more than 200 countries in broadband download speeds, and internet access in the country's rural areas is much slower than in cities, the newspaper said. A year ago, after Li criticized the country's mobile internet for being expensive and slow,

the telecoms regulator pledged to push industry players to lower prices and improve speeds. The country's three operators in May committed to reducing data prices by 20-35 per cent, as well as improving network speeds. Online shopping in rural China has huge potential since 22 per cent of online shoppers live in townships and villages, according to a CINIC report. This number is expanding rapidly and rural online buyers may outnumber urban shoppers within ten years, making the build out of a robust broadband infrastructure an imperative, China Daily said.

## Majority of Wireless Consumers Support Abolition of Net Neutrality

A new CTIA commissioned Harris Poll survey found that Americans would overwhelmingly welcome new free data options that allow consumers to access more content and services without counting against their data plan. Specifically, 94% of the Millennial (18-34 years old) were more likely to try to a new online service if it was a part of free data offering. However, such a service would also breach net neutrality rules that require all data services to be treated equally. You can't offer free data for only some services, and charge for others. Seventy-seven percent of the Millennial said they were more likely to sign-up with a new wireless provider that offered free data, and a remarkable 98% of the Millennial were more likely to stay with their current wireless provider if it offered free data services. Free data services mean more usage of mobile data and devices, with 94% of the Millennial more likely to use more data if it doesn't count against their data plan. "It is no surprise that Americans embrace free data services that offer wireless consumers more data, more competitive choices and more flexibility to try new mobile applications and content. Free data services empower consumers with the freedom to choose what works for their mobile life, and that's an outcome that everyone should support," said CTIA President and CEO Meredith Attwell Baker. The study was conducted February 26-29, 2016, online by Harris Poll on behalf of CTIA among 2,082 adults in the U.S.

## Spark welcomes regulatory review

Spark (formerly Telecom New Zealand) has welcomed a government review of the Telecommunications Act 2001 which aims to update legislation to provide improved regulation of converged networks from 2020 onwards. In September last year the government released a discussion document calling for views on how the industry could be better regulated in future, and authorities have now announced a series of high-level policy decisions which set the framework for a review of the 2001 Act. Spark's General Manager of Regulation, John Wesley-Smith, commented: 'We welcome the Government's early engagement with industry, and its commitment to determining the regulatory settings that will apply from 2020 well in advance of that date. The certainty this will provide will be an important factor in ensuring a healthy, competitive market for the benefit of consumers.' He added: 'It's also important to ensure all levels of the industry have the appropriate regulatory settings to encourage continued investment in better technology and services.' The government says it will consult further with the industry later this year on details of the Telecommunications Act review.

## EU privacy regulators skeptical about Privacy Shield



The EU's privacy regulators have expressed concerns about the proposed Privacy Shield agreement on data transfers to the US, saying it doesn't do enough to prevent mass, indiscriminate surveillance of EU residents, reports Ars Technica. Speaking at a press conference in Brussels, the Chairman of the so-called Article 29 Working Group, Isabelle

Falque-Pierrotin said that the privacy regulators are awaiting a forthcoming ruling by the EU Court of Justice on whether mass surveillance of citizens by intelligence services could be legal. If such surveillance is found unlawful, it would have a big impact on the national security exceptions included in the Privacy Shield. Falque-Pierrotin said that the data protection authorities also had concerns about the independence and effectiveness of the Privacy Shield ombudsperson, who will deal with complaints from Europeans about how their data has been used by US law enforcement, such as the NSA. The regulators did concede that the Privacy Shield was an improvement on the previous Safe Harbor agreement, struck down last year by the EU court for failure to live up to EU data protection standards. Falque-Pierrotin also noted that the Privacy Shield may need revisions to bring it in line with the upcoming new directive and regulation on data protection in the EU. The regulation is expected to be approved this week by the European Parliament, giving EU members two years then to implement the changes. The Article 29 group's opinion is only advice to the European Commission, which negotiated the agreement with the US. The Article 31 Committee, consisting of representatives of the EU states, must also give its opinion on the agreement, and most of the members are thought to support the Privacy Shield. The Article 31 Committee is expected to consider the Privacy Shield in the coming weeks, before giving its opinion later in May. The Commission aims to take a final decision in June, after which the agreement would come into effect immediately.

## Huawei boss warns telecoms sector could need overhaul

Eric Xu, rotating CEO of Huawei, said that the telecoms industry – including both service providers and equipment vendors – is facing challenges driven by dissatisfaction of the status quo. And the executive was very measured in his selection of the word 'challenges'. "Maybe I'm not that sure to use a more dramatic word, but 'challenge' is a neutral word which reflects what the industry is facing," he said. According to the chief, consumers are dissatisfied with pricing and in some cases service levels; enterprise

customers want more agility and faster time to market; and equipment vendors are unhappy with shrinking margins (although, unsurprisingly, he said this was an issue for companies beyond Huawei). In addition, online service providers "might even see the telecoms industry as a roadblock to better serving their customers". This has led to them looking at disruptive business models and technology that could potentially "overthrow" the telecoms industry. On that basis, there are two ways to resolve the problems, he declared. The first is disruption from "non-traditional telecom players". Xu cited connectivity efforts from companies such as Facebook and Google, which have often steered clear of existing technology in order to investigate drones, balloons and satellites. "The second alternative is for our own industry to truly reinvent ourselves. And industry has to come up with faster and more efficient ways to solve customers." Xu said that Huawei's strategy, including its efforts to "cloudify" networks, are designed to "inject new momentum" into a journey that leads to the transformation of operators. "In that context, open source and virtualization are not such a big deal," he said.

## Government allows True into 900MHz re-auction; True poised to poach AIS 2G users

Thailand's government has ordered the National Broadcasting & Telecommunications Commission (NBTC) to hold a new 900MHz license auction as soon as possible, potentially on May 22, bringing forward the previous mooted date of June 24, the Bangkok Post reports. Furthermore, Deputy Prime Minister Wissanu Kreangam said that the state will allow all operators to participate except Jas Mobile (which failed to pay for the 900MHz spectrum it won in December's auction); this means that True Corp – the winner of the other 900MHz block in December – will be allowed to bid for the second concession, despite the NBTC recently voting to ban True from the re-auction. 'The re-auction will occur as soon as possible, which could be on May 22 instead of June 24, and the government may use its powers under Section 44 of the interim constitution to make it happen,' said Wissanu. The state has rejected proposals by

Advanced Info Service (AIS), which was outbid in December, to simply purchase the 900MHz spectrum without auction. Meanwhile, True says it is ready to fully launch nationwide 2G 900MHz services this Thursday, 14 April – the date that AIS is currently scheduled to switch off its own GSM-900 service. As reported by The Nation, True is eyeing the remaining 900MHz users of AIS who are still using 2G phones to make voice calls. Suphachai Chearavanont, True's CEO said yesterday that True's 2G service will use the 900MHz and 1800MHz bands that True won licenses for in December (which it is largely using for 4G LTE expansion). AIS has agreed a deal with its other main rival DTAC to continue serving the majority of its 2G-only device users via roaming on DTAC's 1800MHz network, but a stubborn portion of 900MHz-only handset user remain. AIS' 900MHz concession expired last September, but it has continued to utilize the band under a series of extensions – the latest expiring on April 14, although it is lobbying for further leeway.

## Government asks Robi, Airtel to hand in more documents for merger

Before finalizing its approval for Robi-Airtel merger, the Prime Minister's Office (PMO) has asked the two cellphone companies to submit a set of documents relating

it. The recommendation was to charge a merger fee. On April 7, the division sent the report of Robi-Airtel merger to the PMO to get its final nod. A telecom source said the merger fee has newly been introduced, following the neighboring country's example. He termed it very reasonable. Since the two companies would benefit simultaneously, the government can rather demand a charge as part of its providing new facility. Earlier, Bangladesh Telecommunication Regulatory Commission (BTRC) held a public hearing on merger agreement of Robi and Airtel that mostly went in favor of the merger deal. The regulatory body also formed a two-member expert committee to make a market analysis report which was also in favour of the deal. Industry insiders said the merger is set to strengthen the industry structure, competitiveness, and more importantly, bring greater benefits to customers in terms of network quality and coverage and an improved offering of data products and services. On January 29, Robi and Airtel signed a merger agreement in Kuala Lumpur to venture into a joint business operation in Bangladesh. The joint venture will be named as Robi. According to a recent Robi statement, the combined entity operating as Robi will serve approximately 40 million customers. The joint strength will deliver the widest mobile network coverage across Bangladesh, strengthening its position in the mobile internet segment as well as consolidating its position as the second largest operator in the country. The merger will strengthen long-term sustainability of Bangladesh telecom landscape and market structure, secure faster nationwide roll-out of mobile broadband and contribute significantly to the overall economy and revenue of the country. The telecommunications landscape in Bangladesh has been one of high-growth, but intensively competitive with six players. Upon completion, Axiata will hold 68.3% controlling stake in the combined entity while Bharti will hold 25%. The remaining 6.7% will be held by the existing shareholder, NTT DOCOMO of Japan.

## USTelecom to FCC: New Regs Could Choke Business Broadband and Cost Jobs

An FCC decision to take over pricing of business broadband services could eliminate up to 43,560 jobs, cut economic output by \$3.4 billion over a five-year period and prevent 67,000 buildings from getting access to fiber, according to a report by Hal Singer, principal of Economists Inc. and adjunct professor with Georgetown University's McDonough School of Business. USTelecom commissioned the study. The study comes as some companies are asking the FCC to set prices in the market. Singer reportedly found no evidence of lack of competition, and says that monthly prices for some business broadband services declined between 7 and 17 percent from 2013 to 2015. Singer used Charlotte, N.C., as a test bed because it reportedly has a population and supply of office buildings considered representative of an average U.S. city. He extrapolated the results to assess the impact of regulatory change nationwide. Projecting over a five-year period, the study predicts the following:

- If there is no regulation of fiber-based networks, providers would be able to light up nearly 122,000 buildings nationwide, representing \$9.9 billion in capital expenditures and 4,900 new fiber route miles.
- New regulations would cut projected investment in half to an estimated \$4.4 billion, providing fiber to only 55,100 buildings with 2,200 new fiber route miles.
- New regulations would eliminate 43,560 jobs and reduce economic output by \$3.4 billion, while preventing 67,300 buildings from getting new fiber investment.
- Investment by multiple providers is ongoing and robust. Nearly 30 competitive broadband providers service over 267,000 buildings with fiber across the country, laying over 650,000 route miles of fiber, or 2.42 route miles per building.
- From 2010 to 2015, four major fiber service providers – Zayo, Level 3, Lightower and TW Telecom – invested about \$6 billion in infrastructure in over 40,000 buildings, creating about 60,000 miles of metro fiber.



to their properties and financial health respectively. The notice was served yesterday by the PMO with an immediate effect, according to a Telecommunication Division official. Prior to dispatching the merger documents to the Prime Minister's Office, the Telecommunication Division added a recommendation to

- The aggregate capital expenditure needed to wire all unlit buildings in the United States would be between \$52 to \$75 billion, based on costs per building in Charlotte.

## DoT to reduce spectrum usage charge to 3% for July auction

India's Department of Telecommunications (DoT) has lowered the spectrum usage charge (SUC) from 5% to 3% of annual gross revenues for the country's upcoming frequency auction, scheduled for July this year. According to the Economic Times, citing a senior telecoms official, DoT has approved the decrease in SUC in an effort to attract bids and ensure higher revenue from the auction. Further, the new levy could help cellcos to reduce debts and lower voice and data charges for



consumers. The tender will see the government auctioning off more than 2,000MHz of spectrum across seven frequencies – including the 700MHz band which will be made available for the first time. Once approved by the Cabinet, telcos will continue to pay a weighted average of the new SUC and the older fee (3%-8%) for the total combination of frequencies they hold. The SUC on broadband wireless access (BWA) spectrum in the 2300MHz band remains at 1%. As previously reported by TeleGeography's CommsUpdate, in January 2016 the Telecom Regulatory Authority of India (TRAI) published its recommendations on reserve prices for frequencies in the 700MHz, 800MHz, 900MHz, 1800MHz, 2100MHz, 2300MHz and 2500MHz bands for the July spectrum auction, calling for the government to complete the spectrum harmonization process in the 1800MHz band, and to carry out a similar re-assignment exercise in the 800MHz range before proceeding with the tender. Regarding the 700MHz

band, the TRAI recommended using the APT700 band plan, with frequency division duplex (FDD)-based frequency arrangement. The entirety of the available spectrum (2x35MHz) should be put up for sale, the regulator noted, while it determined a reserve price of INR114.85 billion (USD1.69 billion) per MHz (paired) of pan-India spectrum, with per MHz prices per circle ranging from INR440 million (North East) to INR15.95 billion (Delhi). The auction is currently on track to be the country's largest ever spectrum sale, with the potential to fetch INR5.36 trillion.

## ARTCI mulling offers from Viettel, Monaco Telecom for new license

One week after dealing with "underperforming" mobile operators Comium and GreenN, the Regulatory Authority for Telecommunications in Cote d'Ivoire (Autorite de Regulation des Telecommunications de CI, ARTCI) is said to be reviewing three offers for a new concession. Telecoms minister Bruno Nabagne Kone told Reuters that the government is considering offers from Monaco Telecom, Vietnam's Viettel Group and the Libyan Post Telecommunications and Information Technology Company (LPTIC) – the parent of stricken GreenN. He noted: 'We have three offers which will undergo an independent assessment, then a decision will be taken by the government,' adding that the watchdog may decide to preserve the three operator market – comprising Orange, MTN and Moov – if the offers are not attractive enough. According to TeleGeography's GlobalComms Database, the ARTCI seeks to reconfigure the mobile sector as a four-player market, via the introduction of a new operator 'capable of taking an active part in the development of the Ivorian telecoms market', alongside main players Orange, MTN and Moov. As such, in September 2015 the watchdog invited Expressions of Interest (EoI) for a new telecoms concession, which it said would 'revitalize the market'. The ARTCI has promised an 'optimal redistribution of spectrum resources', while the successful bidder will be expected to deploy networks capable of supporting mobile and fixed telephony, data transmission and internet access. The regulator noted that the pre-selection of operators will be primarily

'based on reputation'. TeleGeography notes that Viettel Group is likely to be considered the front-runner for the licences, given its impact in markets such as Mozambique (as Movitel), Cameroon (Nexttel), Burundi (Lumitel) and Tanzania (Halotel). For its part, Monaco Telecom reportedly bankrolled the license acquisition by yet-to-launch Malian operator Alpha Telecom Mali back in 2012, and later entered into a strategic partnership with Middle Eastern holding company BinTel, which operates as Azur in three markets, in January 2015.

## African regulators to harmonize roaming

The West African Telecommunications Regulatory Assembly (WATRA) said it is working towards harmonizing the roaming activities of the Economic Community of West African States (ECOWAS). The group said guidelines are already being developed for a seamless interconnection and roaming of telephone users in the West African sub-region. Its Executive Secretary, Alhaji Maman Laminou who spoke.

## Romania competition body starts investigation at Orange

Romania's Competition Council announced it initiated an investigation concerning a possible abuse of a dominant position by Orange Romania. The inquiry concerns a possible discrimination practiced by Orange Romania in relation to companies active in the SMS payments market or the market for mobile phone advertising via short messages in Romania. During the inquiry, the authority carried out unannounced inspections at both the headquarters of Orange Romania as well as the headquarters of some local SMS payment aggregators. The authority said there are indications that these companies may hold pieces of evidence the competition authority requires for an accurate assessment of the behavior of Orange Romania in the concerned markets. The collected documents are being analyzed by the authority as part of its investigation process.

## Pakistan takes up cross-border frequency spillover issue with ITU

Pakistan has finally taken up the cross border frequency spillover issue with the International Telecommunication Union (ITU). In frequency spillover, mobile phone signals of one country could be received in the neighbouring country. Owing to spillover signals from Afghanistan, terrorists reportedly used Afghan SIMS during their attacks in Pakistan. The local law enforcing agencies cannot locate the location of Sims issued by some other country. In the past, the signal spillover from TATA Mobile and Reliance Communications of India had also affected services of a local mobile operator in cities bordering India of Punjab province. Pakistan's State Minister for IT Anusha Rehman on Friday asked international body to help resolve the issue. Talking to a delegation of the International Telecommunication Union (ITU), Rehman highlighted the need for a concerted effort lead by ITU at a regional level to mitigate the cross border frequency spillover in neighboring countries, said a handout issued by her office. She said that frequency spillover is not only causing interference with the telecommunication networks but is also providing coverage in areas along the border. She said that Pakistan may take the initiative at the regional level through the Asia-Pacific Telecommunity (APT) to build a regional consensus on the matter before putting up for discussion at a global level. The ITU Field Mission is visiting Pakistan for the stakeholders' consultation to prepare a Spectrum Management Plan for Pakistan. Pakistan has been highlighting the challenges in war on terror due to use of Afghan Sims in the country. Director General of the Inter-Services Public Relations (ISPR) Lieutenant General Asim Saleem Bajwa in January had said that the attackers of the Bacha Khan University in Charsadda used Afghan Sims. Pakistan Telecommunication Authority PTA has been continuously approaching Afghanistan to work out a solution of the issue. According to PTA, Islamabad has offered Kabul to sign a Memorandum of Understanding (MoU) since 2014 but got no response. Despite reminders given by the Pakistan Telecommunication Authority (PTA), Afghanistan gave a cold shoulder to the Pakistani offer

for establishing an agreed mechanism to overcome the issues related to spillover effects of mobile signals in the bordering areas of both countries.

## Telecom operators key to financial inclusion in Africa

The mobile network operators in the country have been identified as critical stakeholders in the success of the full digitization of the financial services sector in Nigeria. Director, Digital Business, Etisalat Nigeria, Adia Sowho Etisalat, who made the observation while speaking at the 2016 eWorld Forum organized by Ajomeia identified four enabling factors that can facilitate the achievement of the Central Bank of Nigeria's goal of the full digitization of the financial services sector in Nigeria. Sowho who spoke on the subject, Financial Inclusion and Digital Financial Services said that the factors include interoperability of standards for money exchange across operators, agents and products, agent/ merchant distribution network that accept and processes clients' transactions, technology platform or avenue by which digital financial services are being provided to the target customers as well as product variety which addresses key pain points and creates value in the community. She called on relevant stakeholders in the digital financial services ecosystem to evolve ways that could help them remain relevant, assuring the commitment of Etisalat to seeking and creating more innovative ways to create value for consumers. She said, "Research results show that only 12 per cent are doing mobile banking while online banking has just 18 per cent of the population. This is a long road to our destination, and it calls for a strategic approach that involves the collaboration of all stakeholders." She noted that there must be regulatory interventions in place to foster the right conditions for increased collaboration stressing that the banks must see and work towards the greater need for client-centric and digital mind set to increase customer base and deposits while reducing cost to acquire and serve. "On our part, we are committed to efforts that will drive Smartphone and broadband penetration to enhance the experience of customers who are expected to carry out financial services", said

Sowho. Etisalat Nigeria recently won the 2016 MobileMoneyExpo Kalahari Financial Inclusion Product of the Year Award for its contribution to the growth of the financial sector of the economy through its mobile money product.

## MTNL scoops USD65m refund for airwaves; BSNL merger due in three to four years

State-owned telco Mahanagar Telephone Nigam Ltd (MTNL) has received INR4.29 billion (USD64.75 million) from the government for the return of its 800MHz spectrum, the operator announced in a filing to the Bombay Stock Exchange (BSE). MTNL notes that the government has approved total compensation of INR4.58 billion for the airwaves, of which INR4.29 billion had been disbursed by the Department of Telecommunications (DoT) by 30 March 2016. In a related development, MTNL's chairman and managing director, Narendra Kumar Yadav,



has said that it is his understanding that the telco is to merge with sister company Bharat Sanchar Nigam Ltd (BSNL) in the next three to four years, the Economic Times writes. The operator is expected to turn profitable in the next financial year, following three years of narrowing losses after the government weighed-in to revive the ailing provider. Further, the official was quoted as saying: 'In two years' time, we should get around INR10.00 billion from asset monetization which includes INR7.50 billion from optic fiber and INR500 million from the tower business.' Commenting on the planned BSNL/MTNL merger, Mr. Yadav explained that, for now, 'there is more emphasis on synergy than on merger. [The] merger will take place but there is time, it is not a straight option.



## ▼ A SNAPSHOT OF REGULATORY ACTIVITIES IN SAMENA REGION

### REGULATORY UPDATES

#### Algeria



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

Algerian telecoms watchdog the Regulatory Authority for Post and Telecommunications (ARPT) has accepted three bids for 4G licenses submitted by the country's cellcos Algerie Telecom Mobile (Mobilis), Optimum Telecom Algerie (OTA, Djazzy) and Ooredoo Algeria (Nedjma) by stating that the applications were 'admissible'. Mahgoun Salah, chairman of the 4G license award committee, revealed that the provisional date for the award of the 4G authorizations is now set for May 23. In early January the regulator invited all interested parties to submit their bids for participation in the 4G license auction, with an initial deadline of April 3, 2016 (subsequently pushed back to April 11). ICT Minister Imane Houada Feraoun disclosed in January the government will grant the licensees a period of three months to obtain the required equipment, with the launch of commercial 4G services expected to take place in the last quarter of 2016. Further, the minister added that under the license terms and conditions, the cellcos 'must provide a minimum coverage of 10% in the provinces of their

choice in the first four years, and expand to the southern regions of the country within three years'. (April 14, 2016) Agence Ecofin

#### Bahrain



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

Further to Order No. 2 of 2016 issued by the Telecommunications Regulatory Authority ("the Authority") on the February 4, 2016 and pursuant to Articles 31, 34, 35 and 37 of the Telecommunications Law, the telecommunications service licenses granted to 2Connect W.L.L were revoked effective the February 25, of 2016. Upon receipt of an application from 2Connect W.L.L, to enable the successful migration of all their existing customers to other licensed operators, the Authority has granted an extension to 2Connect W.L.L. to continue providing telecommunication services under Article 37(b) of the Telecommunications Law until the June 28, 2016. For the avoidance of doubt, 2Connect W.L.L is not permitted to acquire any new customers during the above mentioned extension period. (April 7, 2016) tra.org.bh

Telecommunications Regulatory Authority (TRA) has urged operators in the sector to adopt international standards for information security in light of the major cyber threats faced by the industry. This came during a workshop held on Information Security based on ISO 27001 and CAS (T) Standards for the telecommunications operators. Commenting on the developments, Dr. Khalid Al Khalifa, TRA's Director of Cyber Security said, "Following best international practices are essential, as our telecommunications infrastructure is the backbone of development not only in telecoms sector but also in other critical sectors such as banking and finance as they rely on the availability of the services provided over these critical assets." ISO 27001 encompasses best international practices on information security management, risks and controls. CAS (T) is a standard for information in Telecommunications Service Providers developed in the United Kingdom. The workshop, attended by telecommunications operators in Bahrain, discussed various issues related to Information security, including the major sources of cyber threats faced by telecoms operators. The workshop gave insight on how ISO27001 and CAS(T) standards can help operators address these cyber threats, experiences of the implementation of these standards in the UK, and planning for implementation of ISO27001 and CAS(T) certification from the operators' point of view in both Mobile and fixed line services. (March 30, 2016) [newsobahrain.com](#)

## Bangladesh



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

The Bangladesh Telecommunication Regulatory Commission (BTRC) has released draft guidelines regarding 'Telecom Value Added Services, 2016'. The Commission has also launched public consultations related to these telecom VAS guidelines. Interested parties can submit their comments and opinions related to the draft guidelines at the BTRC website.

(April 24, 2016) [telecompaper.com](#)

Bangladesh's second largest mobile operator by subscribers, Banglalink, has signed an infrastructure sharing agreement with Summit Communications, under which Summit will lease fiber capacity to Banglalink on certain domestic routes and in exchange Banglalink will lease fiber capacity to Summit on other routes. Banglalink said in a press release that the arrangement will strengthen its network by providing fiber redundancy in certain areas and improve network service availability for Banglalink subscribers, while Summit will be able to offer more transmission bandwidth to other telecom operators using Banglalink fiber in specific areas.

(April 15, 2016) [telegeography.com](#)

## Iraq



**Chairman & CEO: Dr Safaa Al-Ddin Rabee**  
[Communication & Media Commission (CMC)]

Telecoms watchdog the Communication and Media Commission (CMC) has revived a complaint against mobile operator Zain involving the unauthorized sale of

SIM cards, Reuters reports, citing a statement by Zain to the Kuwait Stock Exchange. In January 2011 Zain Iraq, the local unit of Kuwaiti telecoms firm Zain Group, was issued a US\$100 million fine for allegedly releasing five million SIM cards without regulatory permission. After more than four years of litigation between the two parties, Zain said in June 2015 that the CMC had dropped its legal case. However, a committee at the commission has now raised the issue again and wants to meet with Zain Iraq executives on 13 April, the statement said, adding that the company would attend the meeting and bring documents supporting its position. (April 6, 2016) [reuters.com](#)

Telecommunications regulator has revived a complaint against the local unit of Kuwait's Zain which could involve the imposition of a \$100 million fine on the company, Zain said in a statement to the Kuwaiti bourse. For several years, Zain Iraq and the Communications and Media Commission battled in the court system over an allegation that the unit sold SIM cards without the commission's permission. In mid-2015, Zain said the regulator had scrapped its legal case. But a committee at the commission has now raised the issue again and wants to meet with Zain Iraq executives on April 13, the statement said, adding that the company would attend the meeting and bring documents supporting its position. (April 4, 2016) [reuters.com](#)

An Iraqi appeals court has upheld a ruling that obliged the local unit of Kuwait's Zain to pay a \$187 million tax bill related to the acquisition of a rival operator from Egypt's Orascom Telecom in 2007. Iraq's tax authority has claimed from Zain Iraq, the country's biggest mobile operator by subscribers, capital gains tax worth \$187 million from its \$1.2 billion purchase of Iraqna. A bank account freeze on an amount equivalent to the tax bill was imposed. Unusually, the government has tried to levy capital gains on Zain Iraq as the asset buyer, rather than on the seller, Egypt's Orascom Telecom, which was later renamed Global Telecom. "The court of appeal has issued a decision about the case on March 30 to uphold the decision of the primary court that had ruled not to accept [Zain Iraq's] claim," a bourse statement from Zain, the majority shareholder in Zain Iraq, said on Thursday. "The company has a right to appeal the decision at the Cassation Court within 30 days, and the company will offer an appeal in the coming days," the statement said.

(March 31, 2016) [gulfnews.com](#)

## Jordan



**Chairman of the Board of Commissioners/  
CEO: Eng. Ghazi Al-Jobor**

[Telecommunication Regulatory Commission (TRC)]

The government of Jordan endorsed a set of incentives to boost growth in the ICT sector, which contributes some 12 per cent to the country's income. Under the decision, services related to software development, mobile apps, website portals, outsourcing, digital content and electronic games, information technology training and e-learning will be exempted from sales tax and customs duties. Goods and services necessary for ICT services will also be subject to a zero sales tax rate. Income tax rates on such services will be reduced to 4 per cent. "These incentives will help trigger growth

in the ICT sector and help turn Jordan into an ICT hub," Minister of Information and Communications Technology Majd Shweikeh said in a statement. The move, the minister said, came after thorough studies and discussions with stakeholders and the private sector. "These incentives will help reduce costs and enable the attraction of investors into the sector, which will help in jobs generation," the minister added. The ICT sector's revenues dropped by 14 per cent in 2014 compared to 2013, down to JD546 million, according to figures by the ICT Association of Jordan (int@j). The decline was attributed to several local and external factors including lack of incentives in previous years to boost the sector. In October 2015, the government announced plans for launching a strategy that would function as a roadmap to make Jordan a regional ICT hub in 2016. The strategy, which is reinitiating the REACH initiative that Jordan first launched in 1999 will detail action plans, projects and measures required to "genuinely turn the Kingdom into an ICT hub in the region". The 2016-2025 REACH initiative will work on finding practical solutions to challenges facing the sector. The strategy focuses on the development of human resources, facilitating access to finance and enhancing infrastructure to create jobs.

(April 10, 2016) The Jordan Times

## Lebanon



**Secretary of the Board: Mr. Amine Moukheiber**

[Telecommunication Regulatory Authority (TRA)]

Telecommunication Minister Boutros Harb inaugurated new switchboards in north Lebanon's Batroun district as part of a fiber-optic network. While touring the area, Harb said he aims to place Lebanon at the top in terms of Internet bandwidth. "This is the first stage of implementing the 2020 project," Harb said from Kfar Abida village. The project will "transfer the Lebanese from the [era of slow Internet] to a more developed one that would put Lebanon at the forefront of countries operating an advanced Internet and mobile networks." Harb claimed that the average user only needs about 2 Mbps, but that the planned project will increase capacity to 84 Mbps. The world's fastest peak Internet speed is 135.7 Mbps in Singapore, according to a report from Akamai, an Internet content delivery company. Harb was accompanied by the head of the state telecoms company Ogero, Abdel Moneim Youssef. Last month, Harb announced that the fiber-optic network is functioning and has been extended to large institutions. When Harb became minister in 2014, the country's fiber-optic backbone connecting major switchboards to each other and large institutions was already largely complete. However, work was reportedly stopped at the new minister's initiative. Harb said that the current installation of fiber optics is part of the 2020 strategy he launched in July of last year. According to that plan, fiber-optic networks are to be installed in Lebanon progressively over five years, with the goal of connecting the entire country by 2020. (March 29, 2016) zawya.com

## Morocco



**Director General: M. Azdine El MoutassirBillah**

[Agence Nationale de Reglementation des Telecommunications (ANRT)]

A lawsuit has been filed against Moroccan telecoms regulator the National Agency of Telecommunications Regulation (ANRT) following its decision to block over-the-top (OTT) VoIP services – such as Skype, Viber and WhatsApp – in January, with the first hearing in the case scheduled for April 21. The unidentified plaintiff lodged the case in an administrative court in Oujda. The ANRT justified its decision to block the OTT VoIP services by saying that the foreign entities who manage them 'did not have the telecommunications licenses necessary to operate in the country' and thus 'unjustifiably steal potential revenue from domestic companies'. The plaintiff's representative Mourad Zibouh, however, said: 'The ANRT does not intend to protect the market, but only the interest of the largest operator, [Maroc Telecom], which plays the role of a monopoly ... The agency's decision protects a single actor, while discriminating against others.' (April 12, 2016) Morocco World News

## Nepal



**Chairman: Mr. Digambar Jha**

[Nepal Telecommunication Authority (NTA)]

Nepal Telecom (NT) has revealed plans to introduce 4G LTE mobile services in its next fiscal year which begins in July. The firm has sought approval for the launch from the regulator, the Nepal Telecommunications Authority (NTA), but is still awaiting a response. The NT's Managing Director Buddhi Prasad Acharya said: 'It has been more than a year since we requested the NTA to allow us to launch the 4G service. We will kick start the expansion as soon as we get the approval.' NT said in September 2014 that it was considering using LTE technology to replace all its existing networks – GSM, CDMA, W-CDMA, WiMAX and fixed line – for the provision of broadband data services. It announced in January this year that – in tandem with its 4G rollout – it plans to expand its 3G services nationwide and phase out its 2G networks completely. (April 22, 2016) The Kathmandu Post

## Oman



**Executive President: Dr. Hamed Al-Rawahi**

[Telecommunication Regulatory Authority (TRA)]

Oman's Ministry of Transport and Communications has reportedly approved plans to license a third full service telecoms provider, in a bid to bring down tariffs and improve service quality for end-users, Gulf News writes. The move is aimed at increasing competition in the sector, which is currently home to just two fixed line and mobile network operators, majority state-owned Oman Telecommunications Company (Omantel) and Ooredoo Oman, in which Qatari incumbent Ooredoo holds a 55% stake. No further details have been made public yet, the report adds. In a separate development, the Telecommunications Regulatory Authority (TRA)

has approved the Access and Interconnection (A&I) Regulation, which aims to promote competition and remove barriers to market entry, as well as to increase high speed broadband coverage, particularly in rural areas. The rules state that A&I shall be provided on an equal and non-discriminatory basis to all requesting parties and wholesale customers, writes the Muscat Daily. 'The interconnection of networks is critical to the development of competition as it enables one operator or service provider to reach subscribers on another operator's network. As such, the TRA considers that all public telecom licensees should be subject to the obligation to interconnect their respective networks to ensure end-to-end connectivity,' the legislation states. The providing party shall be free to negotiate reasonable commercial terms and conditions with a requesting party, provided that they are not contrary to the interests of beneficiaries or to the provisions of the regulation. The TRA first invited stakeholders, interested parties and the public to comment on its draft A&I Regulation back in April 2014. (April 20, 2016) [telegeography.com](#)

The Telecom Regulatory Authority (TRA) has passed a comprehensive legislation on 'Access and Interconnection Regulation' (A&I) which will open up the market for more competition. The regulation establishes a set of binding principles and procedures aimed at regulating all A&I services in the sultanate. The law, issued on April 13, is set to increase competition and remove unnecessary market entry barriers, as well as boost coverage and broadband services, focusing in particular on high-speed broadband and extending coverage to rural areas. The regulation will work on the principles that Interconnection between all public telecommunications networks shall ensure any-to-any communications and connectivity between beneficiaries; A&I services shall be provided on an equal and non-discriminatory basis to all requesting parties and wholesale customers; and provision of high quality, innovative and ubiquitous telecommunications services at a reasonable cost shall be facilitated. Under the law, all licensees are obligated to provide Interconnection Services in accordance with the provisions of the regulation. "All Interconnection Agreements must facilitate end-to-end connectivity by ensuring that any public telecommunications licensee is able to terminate a call or other public telecommunications service on any public telecommunications network," the law states. The law also obligates to provide access to certain physical infrastructure and other facilities. "A public telecommunications licensee shall, upon reasonable and valid request, be obligated to negotiate and provide a requesting party with access in respect of the following facilities over which it has ownership, unless the authority determines, based on a justifiable request by the providing party, that the provision of such access is not technically or economically feasible," states the rule. It further stated that the providing party shall be free to negotiate reasonable commercial terms and conditions with a requesting party, provided that these terms and conditions are not contrary to the interests of beneficiaries or otherwise contrary to the provisions of this regulation. The authority during the draft proposal of the regulation had stated that the development and implementation of an effective A&I regime is central to promoting competition in the telecommunications

market. "The interconnection of networks is critical to the development of competition as it enables one operator or service provider to reach subscribers on another operator's network. As such, the authority considers that all public telecom licensees should be subject to the obligation to interconnect their respective networks to ensure end-to-end connectivity," TRA said. This also holds true for access services. "Requiring an operator that is in a position of dominance in a relevant market to offer access to its network can help to reduce market entry barriers. This is because investing in some network facilities may be very costly or very difficult to undertake. The duplication of costs also means that it becomes commercially unviable from an economic point of view. As a result, not requiring access may limit the emergence of competition in retail markets," stated the authority. In order to check abuse by non-dominant or dominant players, the regulation imposes strict penalties that range from RO10,000 to RO100,000. In addition, a penalty of not less than RO1,000 shall be imposed for each day the violation continues beyond the date on which penalty is imposed. In all cases, the penalty shall be doubled for recurrence of the violation.

(April 19, 2016) [zawya.com](#)

Ministry of Telecommunication has approved the license for a third telecom provider, after the sector faced sweeping criticisms over high prices due to lack of competition. No details have been made public yet, but the competition boost will likely lower prices for consumers. "Telecommunication services prices are high in Oman compared with the other Gulf states, particularly mobile services," said Dawood Al Mayasi, the vice-president of the Competition and Tariff Department at the Telecommunication Regulatory Authority (TRA). He attributed the high prices to the lack of competing telecom providers over the past ten years. "A new telecom operator will bring the prices down as well as it increases the quality of the telecom services," Al Mayasi said. The TRA said it had encountered difficulties in policing telecom providers, singling out Omantel, a national company, and Ooredoo an Omani-Qatari company. Consumers have long complained over the high prices of telecom providers. Ahmad Al Beloushi, a private sector employee, told Gulf News that the telecom providers should at least provide good mobile coverage in all areas of Muscat. Another consumer, Mohammad Al Ansari, said that he pays more to get decent broadband service but still faces intermittent service disruptions. "I have no problem to pay more but at least I have the right to get decent services," he said. Oman's telecom sector has witnessed a rapid growth of 6.8 per cent during the first quarter of 2016 and generated total revenue of 201.6 million riyal, compared to 188.7 million riyal during the same period in 2015, according to TRA figures. (April 18, 2016) [world.einnews.com](#)

With a view of boosting bilateral cooperation, Dr. Hamad bin Salem Al Rawahi, executive president of the Telecommunications Regulatory Authority (TRA), Oman, welcomed a Polish delegation headed by Magdalena GAJ, president of the Office of Electronic Communications of the Republic of Poland on Monday. The official visit to the TRA Head Office is in continuation of the ongoing cooperation between the two organizations

for executing an MoU signed in the year 2013 that aims to exchange expertise, strengthen cooperation in areas of telecommunications and posts in the two friendly countries, including boosting cooperation for SME projects and sharing of viewpoints in facilitating future investment opportunities in the telecom sectors in both countries. A number of issues will be discussed during a two-day workshop being held for the same purpose, where experts will exchange achievements and updates on telecommunications and posts in both organizations. Issues relating to data indicators and the performance of the postal market will also be addressed during the visit, as well as sharing knowledge on practices adopted in the regulation of quality of service, operation of database for porting of fixed and mobile numbers and the models used in the two countries. Furthermore, the two sides also reviewed their experiences in the field of consumer protection, customer complaints and procedures to resolve them. As part of her official visit to the Sultanate, Magdalena GAJ also visited a number of relevant local institutions. (April 5, 2016) world.einnews.com

## Pakistan



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

Pakistan Telecommunications Authority (PTA) has amended the provisions of Telecommunication Consumer Protection Regulations (2009) to further protect consumer interests. Regulations are aimed at providing a better mechanism with regard to launch of commercial practices or telecommunication promotional schemes by operators. According to new law, operators now have to inform PTA at least 10 working ahead of launching any new commercial schemes. The operators are now limited to offer incentives like air time etc rather than lucky draws for cars, gold or cash etc. Masking of numbers, which was being used by illegal marketers, and auto opt in schemes have been disallowed according to the new regulation. PTA may alter, restrict, suspend or impose sanction on any commercial activity or telecommunication service promotional scheme if deemed necessary and operator will be responsible to provide title and key features of such activities to PTA. Each operator will be responsible to provide an undertaking that the commercial practice and telecom promotional schemes are in compliance with the Act, Rules, Regulations and all other laws of Pakistan. Operators are allowed to offer incentives in shape of service related benefit, free or additional services and discounts on services or features Operator, as per new regulations, will be responsible to provide a complete details to PTA about the promotion, including type of the incentives allocated to be distributed to the qualifying consumers, parameters/benchmarks for determining winners and details of mechanism, place and date for selection of qualifying consumers. Furthermore, under the new regulation, an undertaking regarding inclusion of key features of the offered telecom promotional schemes in print media which shall be published in at least one national and local-language newspaper each as well as on the licensee's, website in a clear, transparent and nondiscriminatory manner. PTA has said that amended version of "Telecom Consumers Protection Regulations

(2009)" is aimed to further safeguard the consumer rights and interests. After the amendments in the regulation it is expected that, now telecom consumers can approach telecom operators for protection from unwanted and fraudulent communication and operators are required to facilitate these consumers under these regulations.

(April 14, 2016) propakistani.pk

Cellular mobile operators (CMOs) have been given one month time by the telecom sector regulator to clarify inconsistencies in their on-net and off-net tariffs, which are leading towards unhealthy rivalry and price wars hence affecting the whole industry. PTA has delivered a consultation paper emphasizing that though CMOs have constructive gross margins, some are sustaining losses. PTA has the power to adjust the prices of telecom services through Pakistan Telecommunication Re-organization Act. Discernment between on-net and off-net tariffs which errands on-net calls forms a cult behavior whereby relevant users mace into a specific network to take benefit of lesser on-net call price. CMOs contest on prices and provide low tariff to appeal users. Low prices are combined with numerous call packages, 17 is the minimum number of packages being offered by Warid Telecom whereas almost 153 packages are being presented by China Mobile Pakistan (Zong). PTA has also been given the recommendation of fixing a price floor which would basically curb the capacity of promotional offers being presented by CMOs. Experts are of the view that setting of price floor will not be useful as price differs among operators. Though it might be probable for operators to agree on a definite price level among themselves. Hassan Azhar, an expert, witnessed that because of the extreme unhealthy competition, telecom revenues have dropped in last few years and is also ensuing in subscribers assembling, mounting grey trafficking, divesting of fixed line from its due share and low revenues for Long Distance International (LDI) operators. If steps are taken to level the on-net and off-net tariff or to slender the disparity, it would be constructive for entire industry in shape of less unhealthy competition within CMOs and abolition of anti-competitive behavior with fixed line operators. Currently Pakistan has some of the lowermost mobile call charges in the world and the affordability of services has backed to remarkable subscribers progress. Conversely this has also caused lower profits, calling circles, endorsing grey trafficking and anti-competitive behavior of CMOs by divesting the fixed line operators of their due share. In Pakistan, cellular operators are proposing belligerent limitless on-net calls and greater number of promotions packages i.e. Zong offering 158, Telenor 92 and Ufone 55 packages. Moreover retributions generation of CMOs has wilted in past couple of years due to aggressive advertising campaigns and reduced charges provided by CMOs. (April 7, 2016) phoneworld.com.pk

Pakistan Telecommunication Authority is all set to give its verdict on Warid-Mobilink merger by end of this month or early next month. According to officials, the Authority is processing the application of the proposed merger. "We are communicating with stakeholders including telecom players and government departments as part of merger approval," a senior official said. He said apart from seeing regulatory aspects, the authority will also take measures to protect consumers. We are

evaluating from regulator point of view, and of course we will also ensure that the consumer interest is protected during and after the process, he said. Official said as it was the first merger in telecom history, PTA was trying to evaluate from every possible angle. "There is no precedence of such mergers and we are doing everything first time. If some objection comes up comes during the public hearing, which will be held soon, or some stakeholders raise any valid point in written form, we would bind the merging companies to address that," official said, adding that merger is likely to get approval from the authority, by the end of this month or early next month. PTA started processing the application after the approval of Competition Commission of Pakistan. Last month, CCP approved the merger directing merged company to comply with the remedies imposed by the commission. After CCP's approval, both the companies also need approval from Security Exchange Commission of Pakistan, Pakistan Telecommunication Authority and State Bank of Pakistan. PTA has already told both the companies to clear all outstanding dues. Wateen and LinkDotNet had reportedly defaulted on some payments which have to be settled down. According to Mobilink, it will first acquire 100 percent of Warid's shares in consideration for the Dhabi Group shareholders acquiring approximately 15% of the shares of Mobilink. After getting approvals both the companies are expected to start merging their operations by August 2016.

(April 5, 2016) nation.com.pk

## Palestine



A new World Bank report estimates the Palestinian mobile sector revenue losses at more than USD1 billion in the last three years. The Palestinian Authority's fiscal losses for the same period are as high as US\$184 million, counting non-collected VAT alone, up to 3% of the GDP. The report highlights what it says shows that the Palestinian telecom sector is suffering from several constraints, claiming heavy toll on the economy, the consumer, and the Palestinian Authority. The sector was hindered by years of delay in mobile broadband, presence of unauthorized Israeli operators in the Palestinian market, restrictions on importing equipment, and absence of an independent regulator. "With unemployment rate at 26%, the Palestinian telecom sector has the potential to boost the economy and create job opportunities," said Steen Lau Jorgensen, World Bank Country Director for West Bank and Gaza. "In order for that to happen, Palestinian operators should be able to access similar resources as their neighbors." In late 2015, an agreement with Israel has been reached to release 3G spectrum to the West Bank. However, the Palestinian operators remain at a competitive disadvantage because Israeli operators have 3G and 4G capabilities and are able to attract higher value customers. Unauthorized Israeli operators are capturing more than 20% of the West Bank market in volume. Restrictive measures have significantly affected the development of the Palestinian telecommunications. These include the Israeli restrictions on the import of equipment for telecom and ICT companies, the inability to operate in more than 60% of the West Bank

under Israeli control (Area C), and the requirement by Israel that Palestinian operators go through an Israeli-registered company to access international links. While international practices commend competition in the sector, the second Palestinian mobile operator Wataniya has not been able to start its operations in Gaza due to Israeli restrictions on accessing spectrum and importing material. As a result, Gaza remains a mobile-monopoly market structure. Despite these constraints, the Palestinian authorities have adopted liberal licensing regime for Internet Service Providers (ISPs). There are more than 20 ISPs that have rights to invest directly in broadband infrastructure and operate them. Few other countries in MENA have adopted this approach. "The liberal approach could significantly improve Internet access, if existing bilateral and regulatory constraints are alleviated," said Carlo Rossotto, Lead ICT policy specialist at the World Bank. "The potential economic returns will be significant if the regulatory obstacles are addressed." The independent regulatory Authority has yet to be established as stipulated by the 2009 law. At present, the Ministry of Telecommunications and Information Technology remains the sole regulator, responsible for all pricing, licensing and operational issues. The Palestinian Authority has taken steps to liberalize the market, but there are significant concerns of market dominance and high pricing regime. (April 1, 2016) cellular-news.com

## Qatar



**President: Mr. Mohammed bin Ali Al Mannai**

[Communications Regulatory Authority (CRA)]

The Communications Regulatory Authority (CRA) is finalizing a Quality of Service (QoS) Policy to outline the objectives and approach to the regulation of the quality of communication services provided to the public in Qatar. Once finalized, the Policy will become a key part of CRA's mandate to set performance standards for quality of service and to monitor compliance with these standards by service providers. The Policy includes clearly defined parameters, targets, reporting procedures, compliance requirements and enforcements procedures. CRA regulates communications and postal sectors, as well as access to digital media and advanced, innovative, and reliable communication services provided by operators in these sectors. "The main objective of QoS Policy is to introduce greater clarity, transparency, predictability, equality and certainty with respect to QoS regulation for the benefit of both the customers and the providers," said Amel Salam Al-Hanawi, CRA's Consumer Affairs Department Manager. "The Policy is based on a forward looking approach. For example, it states that the key performance indicators (KPIs) should be resilient to address both present and future customer needs and at the same time enable competition," she added. Service Providers will be required to measure their quality of services against the KPIs set in the QoS Regulation and report to CRA. However, CRA shall also conduct its independent measurement surveys ensure compliance. Full details of the Policy will be made available to the general public through the CRA website. The Consumer Affairs department within CRA is responsible for monitoring quality of communications services in Qatar in addition to receiving and investigating telecom

consumer complaints. Consumers can contact CRA using a variety of communication channels: the 24/7 hotline number 103, email at [consumervoice@cra.gov.qa](mailto:consumervoice@cra.gov.qa), using the CRA's online complaint form, by tweeting directly to @CRAqatar, or by visiting CRA's headquarters at Al Nasr Tower B, Corniche. (April 18, 2016) [cra.gov.qa](http://cra.gov.qa)

Ooredoo Qatar says that the first stages of its next-generation 5G network will be deployed by 2018, leading to 5G services being commercially available by 2020. Mr. Waleed Al Sayed, CEO of Ooredoo Qatar, told reporters on the sidelines of Ooredoo Group's AGM: 'We are already working to build the first R&D Centre and also a research laboratory with Huawei, which is going to be open for professionals soon. We are ready to implement 5G in Qatar as soon as it is standardized and available commercially. The building is ready, and it will take another one year to be operational as we are in the process of putting in place the needful equipment and support services. So the challenge is how fast the [standardization] can be brought forward to launch 5G.' Once 5G networks are rolled out in Qatar, peak mobile internet speeds are expected to jump to between 1Gbps and 10Gbps. In November 2015 that Ooredoo Group and Sweden's Ericsson signed a Memorandum of Understanding (MoU) for 5G development 'with the ambition of developing use cases, requirements and deployment scenarios for 5G technologies'.

(March 30, 2016) The Peninsula

## Saudi Arabia



**Governor, Deputy Chairman of the BoD:  
Dr. Abdulaziz Bin Salem Al Ruwais**

[Communication & Information Technology Commission (CITC)]

The Ministry of Social Affairs will provide financial support for the Saudization of the Kingdom's telecommunications sector, according to the Minister of Social Affairs. Minister Majed Al-Qasabi said the ministry would work as a team with other ministries and government agencies to promote the employment of Saudi citizens in the sector. The Saudi Credit and Savings Bank announced recently that it would finance projects by young male and female Saudi entrepreneurs in the telecommunications sector up to the value of SR200,000. Al-Qasabi said driving Saudi employment in the sector was part of a comprehensive strategy to employ Saudi youth and increase their participation in occupations and businesses that are in high demand. The Minister said the decision to restrict work in the sale and maintenance of mobile telephones and their accessories to Saudi men and women would be an important step toward Saudization of other sectors. The Ministry of Labor announced in March that it will ban foreign workers from selling and maintaining mobile phones and accessories for them. Stores selling mobile communications devices will have to ensure that at least 50 percent of staff doing such work are Saudi citizens in three months' time, the ministry said. Six months from March, the required ratio will rise to 100 percent. It is anticipated that 60% of mobile phone, its accessory and maintenance shops are cover-up businesses in which a Saudi provides a floor for expatriates to invest. In this context the Technical and Vocational Training Corporation noted that its mobile sales and repairing

training is helping over 33,000 Saudis of both genders. Fahad Al-Otaibi, spokesman of the TVTC, noted that the training for mobile repairing is the most in demand followed by sales and customer service. This sector is expected to provide job opportunities to 20,000 Saudis. The training is open to unemployed Saudis above 18 years of age. (April 18, 2016) [zawya.com](http://zawya.com)

The Ministry of Labor intends to nationalize the telecom industry in the long run, not just the mobile phone sales, maintenance and accessories sector, ensuring that no telecom job is held by an expatriate worker. Ministry spokesman Khaled bin Abdulaziz Abalkhail pointed out that the decision to Saudize the above mentioned sectors came into effect on March 10, giving employers and expatriate workers six months to correct their status. After the end of three months, the entire mobile phone industry has to recruit 50 percent Saudi employees by June 6. And starting Sept. 3, all employees have to be Saudi, he said. The spokesman said that all parties involved have agreed on the total nationalization of the telecom sector and its professions including jobs in cell phone shops, accounting, marketing and clerical work. Mega shops with multiple departments are required to have a separate section for mobile phone sales, maintenance and accessories where Saudi workers are exclusively allowed to work, he said. He emphasized that inspection rounds, in collaboration with other law enforcement agencies, are being conducted to make sure that establishments abide by the decision that targets telecommunications, in particular. The decision aims at creating job opportunities for Saudi nationals willing to join the telecom industry. It also seeks to limit security, social and economic threats and curb cover-up business. According to the MoL, enforcement will cover all regions and establishments across the Kingdom.

(April 10, 2016) [zawya.com](http://zawya.com)

## Sri Lanka



**Director General: Mr. Sunil S. Sirisena**

[Telecommunication Regulatory Commission (TRC)]

Sri Lanka Telecom (SLT), the leading ICT solutions provider in the country, announced that it has completed the main aims of its 'i-Sri Lanka' broadband project with Chinese technology partners ZTE and Huawei, in an official closing ceremony for the project held at Waters' Edge on Monday, March 28. In 2005, SLT embarked on a massive project to upgrade its legacy network to a Next Generation Network (NGN). This was expedited when in the year 2011; the company launched its i-Sri Lanka Program under the main vision "Broadening Horizons." Through this project, the company sought to bridge the digital divide in the country and ensure that all citizens in all parts of Sri Lanka has access to consistent, uninterrupted high speed internet that is on par with international standards. Through this program, the company sought to provide broadband connectivity at the speed of up to 20 Mbps speed to 90% of its customers to ensure that customers are able to experience broadband connectivity as never before. In December 2015, SLT completed all phases of the i-Sri Lanka program by adding over 4,500 new access nodes across the island which comprised an investment that

exceeded Rs. 13 billion. Through the i-Sri Lanka program, broadband connectivity is now available in almost all the cities of the country. Further, with the marking of this important milestone, SLT will be able to provide 1.3 million more broadband connections at data rates of up to 20 Mbps and will support Sri Lanka's first Fiber-to-the-Home (FTTH) network which is set to deliver data speeds of 100 Mbps. With this, SLT will be able to serve 70,000 households through FTTH by the end of this year 2016. With the completion of this project, Sri Lanka has become one of the most connected countries in South Asia. This network transformation is the precursor for unleashing many new and unique products and services across the areas of voice, data and video to SLT's customers, inspired by the company's vision to connect all Sri Lankans seamlessly with world class information, communication and entertainment services across the country. Mr. John Lee, CEO of ZTE Corporation and Mr. Wang Shunli, CEO of Huawei Technologies who are SLT's partners for the i-Sri Lanka program, together with representatives from both the companies were present at the occasion. SLT Chairman, Mr. P.G. Kumarasinghe Sirisena, SLT Group CEO, Mr. Dileepa Wijesundera, the Board of Directors of SLT as well as other SLT officers was also present at the event. (April 3, 2016) colombopage.com

## Tunisia



**President: Prof. Hichem Besbes**

[National Telecommunication Commission (INTT)]

Upon receiving their 4G spectrum licenses on March 30, 2016, Tunisia's three mobile network operators Tunisie Telecom (TT), Ooredoo Tunisia and Orange Tunisia, have all begun marketing their 4G LTE services to consumers. All three cellcos' websites claim potential peak 4G LTE download/upload mobile data speeds of 150Mbps/50Mbps (CAT4 standard), whilst all three websites also advertise pre-paid and post-paid 4G packages for handset users alongside 4G USB modem packages, with each also displaying instructions for customers to swap incompatible older SIM cards for 4G LTE SIMs free of charge. TT's website is highlighting that 4G data services are available at the same rates as 3G, whilst TT's marketing also boasts of its fiber network connectivity for boosting the performance of its new 4G radio network. TT's website states that 4G LTE coverage is currently available in areas of Greater Tunis (Tunis/Ariana/Ben Arous/Mannouba), Bizerte, Sousse and Sfax. Orange Tunisia's website coverage map shows a widespread 4G LTE coverage footprint of at least 20 cities across the country including Tunis, Ben Arous, Bizerte, Beja, Jendouba, El Kef, Siliana, Kairouan, Sousse, Mahdia, Kasserine, Sidi Bouzid, Sfax, Gafsa, Tozeur, Gabes, Djerba, Mednine and Tataouine. Ooredoo Tunisia's website says that it is 'committed to ensuring a broad 4G coverage in Tunisia' with its new 800MHz/1800MHz LTE network, and its online marketing also touts value added services including 4G Mobile TV. (April 4, 2016) telegeography.com

## Turkey



**Acting Chairman: Dr. Omer Fatih Sayan**

[Information & Communication Technologies Authority (BTK)]

Russia's Alfa Telecom has indicated that it is willing to sell its stake in Turkcell for USD2.7 billion in a move which could finally resolve a long running legal dispute. In a statement to the stock exchange, Alfa Telecom said that it would consider selling its 13.22 percent indirect stake in Turkcell to Turkey's Çukurova and Ziraat Bank. Alfa Telecom has long been in a dispute with Çukurova and was ordered by a court two years ago to sell a separate 13.8 percent stake to Çukurova for USD1.6 billion. That was financed by a loan from Ziraat Bank, which has not been repaid. Alfa's announcement is seen as possibly putting pressure on Çukurova to finally settle the dispute, but comes ahead of another ruling from the UK-based arbitration court, which might go against Alfa Telecom. (April 7, 2016) cellular-news.com

## United Arab Emirates



**Director General: Hamad Obaid Al Mansoori**

[Telecommunication Regulatory Authority (TRA)]

The UAE's two mobile networks have both blocked the latest version of the Snapchat app for violating local VoIP regulations. In a recent upgrade, Snapchat added a feature that allows users to have voice and video conversations with other users. However, in doing so, it has run foul of the UAE's ban on VoIP based services that are not explicitly authorized by the two mobile networks, Du and Etisalat. In a statement, Du said, "Companies wishing to provide [VoIP] services should coordinate with the UAE's licensed service providers in this regard." (April 11, 2016) cellular-news.com

The UAE's telecoms regulator has ordered the country's two mobile network operators to cut the cost of roaming overseas within the Gulf Cooperation Council (GCC) countries. The GCC is made up of Saudi Arabia, Kuwait, the United Arab Emirates, Qatar, Bahrain, and Oman. In average, the roaming prices for UAE customers who travel to GCC countries should fall by an average of 42% starting from April 1, 2016. Commenting on this move, Hamad Obaid Al Mansoori, the UAE TRA's Director General stated: "The TRA was actively represented in the Roaming Working Group meetings to study the regulation of roaming prices in the GCC countries. The implementation of the price caps by all mobile operators in the GCC will represent a great achievement for GCC countries to be among the pioneers in implementing such regulations." In 2010, the GCC approved recommendations for setting a maximum cap on wholesale and retail mobile roaming tariffs within GCC member states. The Regulation took full effect on February 1, 2012. On June 9, 2015, the GCC approved recommendations setting price caps for calls made to other GCC, calls made within the visited GCC country, calls received while roaming within the GCC, SMS sent while roaming in the GCC and mobile data usage while roaming in the GCC. (April 5, 2016) cellular-news.com



## REGULATORY ACTIVITIES BEYOND THE SAMENA REGION

### REGULATORY UPDATES

#### Australia



Australia's competition authority is concerned about the extent of Telstra's role in the rollout of the country's national broadband network and is looking into a series of proposals from the incumbent telco and NBN designed to mitigate any threat to competition. The Australian Competition and Consumer Commission (ACCC) said it is keen to ensure that Telstra does not gain an advantage over rival retail operators as a result of its technical input into the NBN. The ACCC's announcement came shortly after Telstra revealed its latest deal with NBN; it has signed a contract worth A\$1.6 billion to upgrade the hybrid fiber coaxial (HFC) infrastructure it agreed to transfer to NBN over a year ago. The deal covers planning, design, construction and construction management services and the works are expected to run until 2020, Telstra said. It includes geographic areas within the Telstra HFC network footprint in Sydney, Melbourne, Brisbane, Gold Coast, Perth and Adelaide, the telco added. "While recognizing that using Telstra's technical expertise will contribute to a quicker rollout of the NBN, the ACCC remains concerned that competition issues arise from agreements

that involve Telstra in the construction and maintenance of the NBN, including the HFC delivery agreement announced earlier today," the ACCC said. According to ACCC chairman Rod Sims, the watchdog has raised a number of concerns with Telstra and NBN, including the fact that Telstra could gain an advantage by having access to better information about the network than other retail operators, or if it were permitted to use the NBN infrastructure before its rivals. The ACCC has held talks with both companies and received certain commitments from them addressing its concerns. "We are looking at the parties' proposals carefully to consider to what extent these proposals address our concerns," Sims said. "It is important that Telstra doesn't get a head-start selling retail services over the NBN just because its technical expertise is being used in the construction and maintenance of the NBN," he added.

(April 12, 2016) totaltele.com

#### Brazil



The Ministry of Communications in Brazil has published guidelines to be followed by the National Telecommunications Agency

(ANATEL) when reviewing the current regulatory model for telecoms services. The Ministry recommends that 'public authorities should promote access to broadband services at affordable costs and levels'. Objectives should include the expansion of transport networks and fiber-to-the-home (FTTH) infrastructure in urban areas, in keeping with the Ministries National Broadband Program (PNBL) which was published in November 2014. In addition, the Ministry says mobile broadband technology should be used to improve internet coverage in smaller towns and for public sector applications such as education and health. Ministers also want ANATEL to review the conditions for Fixed Switched Telephone Services (STFC) concessions to introduce more flexibility for licensees to provide converged services and thereby encourage greater investment by operators.

(April 13, 2016) Telesemana

## Cameroon



Cameroon's cellcos have signed a contract with Chinese equipment supplier Huawei to implement mobile number portability (MNP) services in the country. The agreement was signed on April 19 in the country's capital, Yaounde, and will see Huawei launch the service within seven months, by November 2016. Total funds of XAF1.5 billion (US\$2.6 million) will reportedly be invested in launching MNP by the local mobile subsidiaries of MTN, Orange and Viettel. In July 2015 Cameroon's telecoms regulator, the Agence de Regulation des Telecommunications (ART), awarded a contract to Huawei for the supply, installation and operation of a centralized database to manage the introduction of MNP. (April 22, 2016) Business In

## Costa Rica



The Administrative Court has rejected a lawsuit filed by Tigo Star against sector regulator the Superintendency of Telecommunications (SUTEL) regarding its decision in April 2015 to block the merger between Tigo and Telecable. The court has ordered Tigo to pay costs. Tigo agreed to purchase rival cable TV and broadband provider Telecable in December 2014. SUTEL refused to approve the acquisition, however, on the grounds that the merger would reduce competition in the pay-TV market in some areas of the country. (April 12, 2016) TeleSemana

## Cote d'Ivoire



The government has started work on the third phase of its national broadband network (NBN), according to Abidjan.net, which cites a statement from the National Agency for Universal Service in Telecommunications (L'Agence Nationale du Service Universel des Telecommunications/TIC, ANSUT). The deployment will be carried out by French firm Bouygues, working alongside SagemCom and Polyconseil, and is expected to conclude in 2017. On completion the NBN will span around 7,000km, it says. The project started in earnest in 2012 when Chinese vendor Huawei rolled out a 1,400km cable linking the south-western port city of San Pedro to

Ferkessedougou in the central north. Phase two of the project got underway in July 2013, focusing on a 650km link connecting Grand-Bassam and Abidjan in the south-east with the north-eastern town of Bouna. The second phase was carried out by Chinese state owned gear maker China International Telecommunication Construction Corporation (CITCC). (April 22, 2016) Abidjan.net

Following months of speculation, the Regulatory Authority for Telecommunications in Cote d'Ivoire (Autorite de Regulation des Telecommunications de CI, ARTCI) has revoked the GSM licenses held by local firms Comium Cote d'Ivoire, GreenN Cote d'Ivoire and the now-defunct Niamoutie Telecom, which briefly traded as Cafe Mobile. The decision was imposed on March 29, and the watchdog has given the operational players 30 days to deactivate their respective networks. Local media reports have also noted that Warid Telecom – which was awarded a license in July 2006 but never actually launched – has also had its concession stripped, although its imminent expiration renders the issue a moot point. The watchdog seeks to reconfigure the mobile sector as a four-player market, via the introduction of a new operator 'capable of taking an active part in the development of the Ivorian telecoms market', alongside main players Orange, MTN and Moov. As such, in September 2015 the watchdog invited Expressions of Interest (EoI) for a new telecoms concession, which it said would 'revitalize the market'. The ARTCI has promised an 'optimal redistribution of spectrum resources', while the successful bidder will be expected to deploy networks capable of supporting mobile and fixed telephony, data transmission and internet access. The regulator noted that the pre-selection of operators will be primarily 'based on reputation'. (April 4, 2016) telegeography.com

## Cyprus



Privatization of Cypriot state-owned national telecoms company Cyta has been put on hold until January 2017, after opposition parties joined forces in blocking the new government bill designed to privatize the telco. AKEL MP Giorgos Loukaides told parliament that the legislation proposed not only the sale of the most profitable government organization, but also the added burden of laid-off Cyta employees – who were currently being paid without cost to the government – on the public sector. The bill failed to secure the necessary majority in the 56-seat house, with 32 votes in favor, 21 against and one absence. A debt bailout deal between Cyprus and international creditors requires the privatization of Cypriot institutions including Cyta. Under the terms of the bailout, Cyprus has to raise EUR1.4 billion (USD1.6 billion) by selling off state-owned companies in sectors including telecoms, energy and ports. In December 2015 the government approved legislation to privatize Cyta; the bill aimed to preserve salaries, job security, advancement prospects and the collective workers' agreement, while new legislation also defines powers of the state to intervene in the company for national security reasons. (April 15, 2016) cyprus.com

## Czech Republic



In a press release on its website, the Czech Telecommunication Office (Cesky telekomunikacni urad, CTU) has confirmed the receipt of applications of interest from the country's three existing mobile operators for its upcoming auction of 4G-suitable 1800MHz and 2600MHz spectrum. At the close of the March 22 deadline, bidding documents had been received from O2 Czech Republic, Vodafone Czech Republic and T-Mobile Czech Republic, it said. Based on its initial examination, the CTU stated that 'all the applications received fulfill the formal requirements set out in Section 8.2.1 of the announcement of tender and contain the required attachments'. The regulator will now formally evaluate each application ahead of the likely start date for the auction proper on 27 April 2016. In total, the CTU is auctioning off seven blocks of frequency. The initial reserve price for the frequencies is CZK734 million (US\$30.33 million) per allocated block.

(April 1, 2016) telegeography.com

## European Union



The EU's privacy regulators have expressed concerns about the proposed Privacy Shield agreement on data transfers to the US, saying it doesn't do enough to prevent mass, indiscriminate surveillance of EU residents. The so-called Article 29 Working Group issued its opinion on the proposal and whether it lives up to EU data protection standards. The regulators did concede that the Privacy Shield offered "significant improvements" on the previous Safe Harbor agreement, which was struck down last year by the EU Court of Justice for failure to adhere to EU data protection law. However, the Privacy Shield suffers from an "overall lack of clarity", the group said. Key concepts such as limiting access to personal data, data retention, automated processing and onward transfers beyond the US are not sufficiently defined or incoherent with definitions in EU law. The main issue is whether the Privacy Shield does enough to prevent mass surveillance; something the regulators have long held must be subject to strict limits in a democratic society, in order to uphold fundamental rights in the EU. A forthcoming ruling by the EU Court of Justice is expected to provide more clarity on the legal limits of mass surveillance under EU law, the regulators noted, and this may impact the validity of the Privacy Shield. Furthermore, the new redress mechanism for EU citizens proposed in the Privacy Shield may be too complex and ineffective. The national data protection authorities could be a better point of contact than the proposed Privacy Shield ombudsperson. The latter is expected to deal with complaints from Europeans about how their data has been used by US law enforcement. However, the EU regulators are concerned the ombudsperson lacks sufficient independence and powers to meet its aims. The group also noted that the Privacy Shield may need revisions to bring its in line with the upcoming new directive and regulation on data protection in the EU. The regulation is expected to be approved this week by the European Parliament, giving EU members two years then to implement the changes. The Article 29 group's

opinion is only advice to the European Commission, which negotiated the agreement with the US. The Article 31 Committee, consisting of representatives of the EU states, must also give its opinion on the agreement, and most of the members are thought to support the Privacy Shield. The Article 31 Committee is expected to take a decision on the Privacy Shield in May. The Commission aims to take a final decision in June, after which the agreement would come into effect immediately. EU Justice Commissioner Vera Jourova said in a statement that the Commission would incorporate the feedback from privacy regulators before taking a decision. She said the Commission also plans a practical "users guide" on how citizens can obtain redress in cases of possible privacy violations and that she counts on the privacy regulators to help enforce the new agreement.

(April 13, 2016) telecompaper.com

## France



French telecoms regulator the Authority of Regulation for Electronic Communications and Posts (ARCEP) has awarded a temporary license to domestic fixed wireless operator Infosat Telecom for time division duplex LTE (TD-LTE) trials in the 2600MHz frequency band. The company will be authorized to conduct tests using 20MHz of spectrum in the 2570MHz-2620MHz band in the commune of Canteleu – located in the Seine-Maritime department in the Haute-Normandie region in northwestern France – for six months from April 1. Last month ARCEP offered interested parties the opportunity to stage tests using the 2570MHz-2620MHz (2.6GHz) and 3.5GHz bands, ahead of the spectrum's planned distribution – which will occur within the next two years.

(April 19, 2016) telegeography.com

Regulatory Authority for Electronic Communications and Posts (ARCEP) has published additional details on the call for applications for the allocation of available 3G/4G spectrum in the French overseas territories (DOM) of Guadeloupe, Guyana, Reunion, Martinique, Mayotte, Saint-Martin and Saint-Barthelemy. ARCEP will auction spectrum in the 800MHz and 2600MHz bands (yet unallocated overseas), along with additional frequencies in the 900MHz, 1800MHz and 2100MHz bands. All interested parties are invited to submit their applications by May 10, 2016. The regulator will award up to four licenses 'per zone', each with specific deployment obligations; ARCEP said that the authorizations in Guyana will come with obligations to improve mobile coverage of the two national highways (NR1 and NR2). The watchdog clarified that the call for applications is aimed at granting new authorizations in the 800MHz and 2600MHz bands, and operators wishing to apply for lifting the technology restrictions in the 900MHz, 1800MHz and 2600MHz bands need to apply separately. ARCEP added that frequencies previously awarded to Guadeloupe Telephone Mobile, Martinique Telephone Mobile and Guyane Telephone Mobile (in the 900MHz, 1800MHz and 2,100MHz bands) will be reallocated to new operators in the forthcoming auction. In regards to Guadeloupe and Martinique, the regulator disclosed that the available spectrum was as follows:

2×30MHz (800MHz), 2×40MHz (1800MHz), 2×39.3MHz (2100MHz) and 2×70MHz (2600MHz). Back in July 2013 ARCEP unveiled a 'broad public consultation' covering mobile frequency assignments in the 700MHz, 800MHz, 900MHz, 1800MHz, 2100MHz and 2600MHz spectrum bands, with a view to facilitating the introduction of LTE. The process was successfully concluded in February 2014, and a formal tender was expected to be introduced in 1H14, only for the regulator to miss its self-imposed target. (April 18, 2016) telegeography.com

The government has increased its direct voting rights in telecoms company Orange Group to 21.14% under the Florange Act, which awarded double voting rights to long-term shareholders from 2016. The government's 13.44% direct equity stake in the operator remained the same. Public investment group Bpifrance Participations (formerly Fonds Stratégique d'Investissement) had 9.60% of the equity (11.60% previously) and 8.35% of the voting rights, thus giving the government combined total holding of 23.04% of capital and 29.49% of voting rights. Group employees, meanwhile, held 5.08% of the capital. The remainder (69.87%) was in free float on the Euronext Paris market and on the New York Stock Exchange, with no other shareholder owning a 5%-plus stake. (April 11, 2016) Les Echos

France has successfully completed its migration process to all-HD (MPEG-4) digital terrestrial signal (DTT) transmission on 5 April, the Local reports. The move will progressively vacate 2×30MHz of 700MHz spectrum – the so-called 'second digital dividend' – for ultra-high speed broadband services between April 2016 and June 2019. The National Agency of Frequencies (ANFR) revealed that as of April 1, 2016 Bouygues Telecom has already installed its first three 700MHz antennas in Paris, while Free Mobile built three base transceiver stations (BTS) in Tarbes. From April 6, 2016, cellcos will be authorized to provide services in the 700MHz band in a total of 2,374 communes. All four of the country's mobile network operators (Orange, Bouygues, Numericable-SFR and Free Mobile) secured 700MHz spectrum in the auction held by the Regulatory Authority for Electronic Communications and Posts (Autorite de Regulation des Communications Electroniques et des Postes, Arcep) in late October 2015. The regulator revealed that the price of the six 5MHz blocks on offer reached EUR466 million (US\$528.8 million) apiece, with Orange France and Free Mobile securing two blocks each in the aforementioned band, while Bouygues Telecom and Numericable-SFR walked away with one each. (April 6, 2016) telegeography.com

The telecoms regulator the Authority of Regulation for Electronic Communications and Posts (ARCEP) has offered interested parties the opportunity to stage tests using the 2570MHz-2620MHz (2.6GHz) and 3400MHz-3600MHz (3.5GHz) bands, ahead of the spectrum's planned distribution – which will occur within the next two years. ARCEP says the frequencies are suitable for wireless in the local loop (WiLL, 3.5GHz) and time division LTE (TD-LTE, 2.6GHz) usage, but can also be used to support the burgeoning Internet of Things (IoT) sector. The watchdog notes that two companies – corporate

broadband provider Xilan, and hardware firm Spitted-Desktop Systems – have been granted permission to trial the 2.6GHz band so far this month. Both firms have been given five months to test the spectrum.

(April 4, 2016) telegeography.com

French telecoms operators Orange Group and Bouygues Telecom have announced that they have ended negotiations regarding Orange's potential takeover of its smaller rival. 'After in-depth discussions, [Orange's] Board of Directors has concluded that an agreement regarding a possible consolidation with Bouygues Telecom has not been reached', a press release said. Orange added that it will pursue the deployment of its five-year strategic plan, dubbed 'Essentials 2020' (introduced in 2015), which focuses on investment in very high-speed broadband networks while providing an 'unmatched' customer experience. For its part, Bouygues pledged to continue its standalone strategy, which it said already resulted in a return to growth in sales and EBITDA in 2015. Orange and Bouygues entered into a confidentiality agreement in January 2016, marking the beginning of official negotiations in a deal that would reduce the number of mobile network operators in France from four to three. The potential transaction valued Bouygues at roughly EUR10 billion (US\$11.3 billion). (April 4, 2016) telegeography.com

## Georgia



Telecoms regulator GNCC has selected Mediafon Datapro as the new administrator for the country's number portability central database. The winner beat two other participants in the tender, Mediapro Georgia (the existing provider) and Portireba.ge. The contest stipulated that bidders must have provided administrative services for a number portability central database in at least two countries and must provide their services for an annual fee of less than EUR500,000 (US\$565,000). Mediafon Datapro succeeded with a bid of EUR275,000, beating an offer of EUR450,000 from Mediapro Georgia. The mobile number portability (MNP) became available for Georgian users on February 15, 2011, while fixed line customers were able to port their numbers from December 1, 2011.

(April 22, 2016) telegeography.com

## Germany



Vodafone blasted Germany's decision to permit Deutsche Telekom to deploy vectoring, warning that it puts the country on the wrong side of progress.

"In Vodafone's view, the German regulator is wrong to support short-term incremental upgrades to Germany's outdated copper telephone networks rather than support investment in the future-proof fibre networks that Germany needs," the U.K.-based telco said, in a public policy statement. Local telco regulator, the Bundesnetzagentur, on Thursday issued a final decision allowing the German incumbent to upgrade its copper-based VDSL network using vectoring, paving the way for fixed broadband at speeds of up to 100 Mbps. Deutsche Telekom is required to offer a virtual unbundled local

access (VULA) product to rival operators in areas where alternative wholesale networks are not available. The matter will now pass to the European Commission, which has one month to raise any concerns before the Bundesnetzagentur's ruling comes into force. Vodafone warned that pushing ahead with vectoring will leave German consumers and businesses "at a technological standstill," putting them at a disadvantage to those in EU member states that have rolled out gigabit-ready networks. Vodafone urged the Commission to look closely at the Bundesnetzagentur's vectoring decision. "The proposal will put Germany on the wrong side of progress," the company warned. (April 8, 2016) totaltele.com

Following a three-month in-depth investigation, the European Commission (EC) has recommended that the German telecoms regulator, the Federal Network Agency (FNA), amend or withdraw its proposal for fixed termination rates (FTRs), claiming that the planned fees would be over 200% higher than FTRs in the vast majority of other member states which follow the recommended methodology. According to the EC, the FNA proposes to set FTRs for 19 alternative operators based on the methodology previously applied to fixed line incumbent Deutsche Telekom (DT), which is contrary to EU regulatory framework. The EC states that these costs are ultimately included in call prices paid by consumers and businesses, and has requested the German watchdog to withdraw its proposal or to amend it so that the FTRs for the 19 operators are in line with EU telecom rules. If the FNA does not decide to amend its draft proposal, it has to provide a valid justification. (April 5, 2016) telegeography.com

## Guyana



The Guyanese government has announced that the final outstanding USD5 million payment due to the state as part of the sale of its 20% stake in fixed line monopoly holder Guyana Telephone and Telegraph Company (GTT) has already been paid, although it is still investigating the circumstances of the transaction, Kaeiteur News writes. In 2012 the government agreed to sell its shares in GTT to Chinese firm Datang Telecom Technology and Industry Group for USD30 million, with US\$25 million paid up front and the remaining USD5 million to be paid out over the subsequent two years. Until recently it was understood that Datang had not yet paid the USD5 million and earlier this year Minister of State Joseph Harmon travelled to China, with a representative of the National Industrial and Commercial Investment Limited (NICIL) – the government agency responsible for managing the state's shares and securities – to carry out negotiations regarding the outstanding payment. Mr. Harmon's report has been presented to the cabinet and the NICIL, which will consider the findings before making the report public. In the meantime, however, Minister of Natural Resources, Raphael Trotman, was quoted as saying in a post-cabinet press briefing: 'What I can say is that Harmon has been able to retrieve some documents which tell a different story ... that being that the money was paid and we are trying to track down to who, how, where and when.' For its part, Datang has never previously indicated that it had already paid the USD5

million. Confusing the matter, however, are conflicting reports from government officials close to the NICIL that Datang has claimed that the full price was US\$25 million, rather than the US\$30 million figure. Further muddying the waters, earlier this year the Chairman of NICIL's board of directors told press that Datang had refused to pay the outstanding amount unless it is given more seats on GTT's board of directors. Its 20% stake only entitles it to a single seat on GTT's board, but Datang has reportedly asserted that it must inherit all the privileges that the government enjoyed whilst it was in possession of the shares. (April 22, 2016) telegeography.com

## Hong Kong



The Office of the Communications Authority (OFCA) has announced that it will not be opening an investigation into the proposed acquisition of New World Telecom by triple-play fiber provider Hong Kong Broadband Network (HKBN). The deal, first announced in February, will see HKBN paying around HKD650 million (US\$84 million) to buy New World Telecom, which offers a range of fixed line and broadband services in both the business and consumer segments. In a statement OFCA said that it 'was of the view that the Acquisition was unlikely to have the effect of substantially lessening competition in the relevant telecommunications service markets in Hong Kong, and, accordingly, decided not to commence an investigation into the Acquisition'. HKBN previously announced that the buyout will be financed by a five-year loan facility of up to HKD700 million, underwritten by JPMorgan Chase Bank.

(April 4, 2016) telegeography.com

## Hungary



Hungary this week published detailed rules about its upcoming auction of spectrum in the 3.4 GHz and 3.8 GHz bands, giving prospective bidders until 2 May to submit their applications. Hungary's telco watchdog, the National Media and Infocommunications Authority (NMIA), is auctioning 16 2x5-MHz lots of FDD spectrum in the 3.4 GHz band and 40 5-MHz lots of TDD spectrum in the 3.8-GHz band. Each lot of FDD spectrum carries a reserve price of 108 million forints (€347,263), while each lot of TDD spectrum has a HUF54 million reserve. "The sale of frequency bands becoming available upon the expiry of their respective licenses as well as those not used at present, is expected to step up competition in the Hungarian market, accelerate the expansion of penetration...and promote the provision of high-capacity, innovative, high-quality electronic communications services," the NMIA said in a statement. The regulator did not say when it aims to start the auction, but said the frequencies will be available to use in July, and that licenses will be valid until 2034. Hungary is home to four mobile operators: Deutsche Telekom-owned Magyar Telekom, Telenor, Vodafone and newcomer Digi, which won spectrum in September 2014. According to the most recent NMIA figures, published in June 2014, show Magyar Telekom leading the market with a 46.8% share, followed by Telenor and Vodafone on 30.5% and 22.7% respectively. The figures

were published before Digi won its frequencies.

(April 13, 2016) totaltele.com

## India



India's Department of Telecommunications (DoT) is negotiating with the defense ministry to free up 15 MHz of frequencies earmarked for 3G services in time for this summer's spectrum auction. The spectrum – in the 2.1 GHz band – could be put up for auction in July, if the Ministry of Defense is able to make it available in time, the Economic Times quoted an unnamed source as saying on Friday. The process will involve the exchange of the same amount of spectrum in the 1900 MHz band for the defense ministry's airwaves, the paper said. The spectrum swap engendered much debate ahead of last year's frequency auction in India. The state pushed ahead with plans to sell off 5 MHz of 2.1-GHz spectrum in March 2015, despite opposition from major telcos, who were calling for the government to wait until it had its hands on all the potential 3G frequencies. Those 5 MHz raised 101.15 billion rupees (€1.35 billion, at current exchange rates). For 2.1-GHz spectrum included in the upcoming auction, the Telecom Regulatory Authority of India (TRAI) has suggested a reserve price of INR37.47 billion per MHz, nationwide. The auction as a whole – which covers multiple spectrum bands – could raise as much as INR5.36 trillion for government coffers, the Economic Times noted. (April 22, 2016) totaltele.com

More 1.8GHz airwaves are expected to be made available for India's spectrum auction scheduled for July after the band is harmonized across the country. The first phase of the 1.8GHz spectrum harmonization, which will be completed next month and will free up about 202MHz across 22 service areas, comes after the country's cabinet approved allocating spectrum to an exclusive Defense Band and freeing additional spectrum in the band for commercial use in telecoms and broadcasting, the Economic Times reported. The telecoms regulator is expected to sharply increase the amount of spectrum in the next auction, which will likely include spectrum in the highly efficient 700MHz band for the first time and six other bands. The availability of the 700MHz band across the country's 22 service areas would significantly boost the amount the government could raise in the auction, which some estimate could reach a staggering INR5.37 trillion (\$80.5 billion). The Telecom Regulatory Authority of India (TRAI) in January set a base price for the 4G band at a huge INR115 billion (\$1.7 billion) per megahertz. But India's top four operators – Bharti Airtel, Vodafone India, Idea Cellular and Reliance Communications — have indicated they may avoid the 700MHz auction, given their stretched balance sheets and need to beef up their 4G networks with newcomer Reliance Jio soon to launch 4G nationwide. Last year's auction of about 470MHz of spectrum in four bands generated a record INR1.1 trillion for the government. (April 18, 2016) mobileworldlive.com

The Indian government has clarified that telecom service providers will not have to pay service tax on payments for spectrum purchased before April 1. The Central Board of Excise and Customs (CBEC) stated that

a payment for spectrum rights, whether upfront in full or in installments, has been exempted from service tax. The clarification follows the introduction of a provision which made all government services, including auctions, taxable. In the case of spectrum auctions, the new tax would have amounted to retrospective taxation, as it would also have been applicable on deferred payments for airwaves bought before April 1.

(April 15, 2016) the Economic Times

Telenor is considering exiting the Indian telecoms market due to its lack of scale, particularly in the 3G and 4G sectors, it emerged this week. The Norwegian operator is looking for a deal that values its Indian business at US\$1.6 billion-\$1.8 billion (€1.4 billion-€1.6 billion), the Economic Times reported on Monday, citing two sources close to the situation. However, the paper suggested that it might be able to raise \$1 billion at best, its spectrum being its most saleable asset. While Telenor holds some potentially valuable airwaves, its overall lack of spectrum might trigger a decision to leave the market, one of the sources said; noting that the telco has thus far failed to broker any spectrum trading deals and has lost out to larger rivals when spectrum has been available for sale. Indeed, the operator – then known locally as Uninor – walked away from last year's auction of frequencies in the 800-MHz, 900-MHz, 1800-MHz and 2.1-GHz bands with nothing. Meanwhile, big spender Idea Cellular spent more than 300 billion rupees (€4.4 billion) to secure airwaves in three of the four bands and mobile market leader Bharti Airtel racked up a bill of INR291 billion. Telenor claimed a mobile market share of just 5.05% at the end of January, according to the Telecom Regulatory Authority of India (TRAI). It offers services in six circles, its customer base totalling 51.4 million. By contrast, Bharti Airtel had 245.8 million mobile subscribers at the same date, giving it a market share of just over 24.15%. Bharti has operations in all 22 circles and late last week secured additional spectrum from rival Aircel to enable it to offer LTE services in all circles. It will pay 35 billion rupees (€462 million) for 20 MHz of 2.3-GHz frequencies in eight telecoms circles. Bharti, like its competitors, is preparing for the launch of Reliance Jio Infocomm, which is rolling out pan-Indian 4G services. Telenor's presence in the mobile data market is restricted by its lack of spectrum, but it is rolling out LTE using a very narrow frequency range – 1.4 MHz of its 1800-MHz spectrum allocation – in Varanasi, Uttar Pradesh. According to local press reports, it aims to replicate that model across its circles later this year. It will be difficult for Telenor to compete against deep-pocketed rivals in future auctions, the Economic Times quoted one of its sources as saying. "They have run out of options in India," s/he said. There has been no official comment from Telenor. (April 11, 2016) totaltele.com

India is close to approving the entry of virtual operators into its mobile sector, it emerged this week. The Telecom Commission, which operates under the Department of Telecommunications (DoT), has approved a recommendation issued by the Telecom Regulatory Authority of India (TRAI) to license mobile virtual network operators (MVNOs), the Hindustan Times reported. The newspaper quoted an official source at the Commission

as saying that the state will create a new license for virtual operators. The new rules still require the approval of India's telecom minister, but are expected to be implemented "within a few weeks," the source said. As it stands, some non-telco companies in India already have a foot in the telecoms market. As the Economic Times explained on Thursday, retailer Future Group has a partnership with Tata Teleservices that enables it to offer customers free airtime with their shopping. The firm has about 5 million users of that scheme and sees a big opportunity to extend it by obtaining an MVNO license; it expects to sign up 20 million customers, CEO Kishore Biyani told the paper. And there are a number of other big retail groups in the country that could also benefit from the new MVNO licenses. Under the new rules, virtual licensees will be able to offer any telecoms service permitted under the recently-introduced unified license regime that is facilitated by its host operator, the Hindustan Times said. They will also be able to work with multiple host operators. The report claims that MVNOs are expected to help struggling network operators reduce their marketing and sales costs, as well as sharing some operational expenses. This could be particularly helpful to state-owned players BSNL and MTNL, which are keen to reduce costs, but they would need to obtain unified licenses, it said. (March 31, 2016) totaltele.com

## Italy



Italian Prime Minister Matteo Renzi has reiterated his government's goal of "broadband everywhere" at an event in Rome attended by the chief executives of operators Wind, Vodafone Italia and utility giant Enel. Renzi said the first tenders to build a high-speed broadband network in digital divide areas that have been unable to attract private investment (known as clusters C and D) will be launched on April 29. The PM said the government's strategy is to go beyond the objectives of the digital agenda for Europe and bring high-speed broadband at speeds of 30 Mbps to the entire territory by 2020 as well as 50 Mbps broadband to half of the Italian population. "For the first time we have a strategic path," said Renzi, adding that all pending rollouts would be unblocked and an initial EUR 2.2 billion had already been allocated to digital divide areas. The event also saw Enel reveal further details of its EUR 2.5 billion plan to help bring ultrafast broadband to around 7.5 million homes in large 224 Italian cities (clusters A and B) via its newly-created Enel Open Fiber venture. Enel CEO Francesco Starace said work would begin in the cities of Perugia, Catania, Cagliari, Bari and Venice, to be followed in the autumn by Florence, Genoa, Naples, Palermo and Padua. Thanks to a commercial agreement with Vodafone and Wind, fiber-optic services could be available as early as May in Perugia. The Enel CEO also reiterated that Enel Open Fiber will operate as a wholesale-only player and build infrastructure for other licensed operators. "We are non-exclusive and not in competition with others," said Starace, adding that negotiations with Telecom Italia remain ongoing and "it would be fantastic if Telecom wants to take part." He added that financial partners for Enel Open Fiber would be selected "after the summer". According to recent press reports, Telecom Italia is considering cutting up to 15,000 jobs due to competition from Enel. (April 7, 2016) telecompaper.com

## Kazakhstan



More than 72,000 users switched networks in the first three months after the launch of mobile number portability (MNP) in Kazakhstan at the start of this year. According to a report which cites figures from the Ministry for Investment and Development (MID), the biggest winner was third-placed operator Tele2, which lost 9,459 users but added 24,926 for a net gain of 15,467 subscribers. Next was smallest operator Altel which lost 8,123 users and added 19,996, leading to a net gain of 11,873 customers. The two larger providers, K'cell and KaR-Tel (Beeline), both saw net subscriber losses, with the latter down by a net 641 users and K'cell losing 36,859 customers and gaining 10,160 for a net loss of 26,699. Kazakhstan was home to an estimated 27.9 million mobile subscribers at the end of 2015.

(April 15, 2016) Profit.kz

Figures from Kazakhstan's Statistics Agency show that revenue growth for the country's telecoms markets is slowing markedly, and has even gone into decline in early 2016. Communications services brought in revenue of KZT684 billion (US\$2.021 billion) in 2015, up on the 2014 figure of KZT673 billion registered in 2014 and KZT643 billion the year before. Figures for January 2016 show revenues of KZT34.2 billion, down from KZT38.9 billion twelve months earlier, with voice services bringing in KZT17.4 billion and data KZT16.8 billion. Statistics for February show that for the first time sales of data services outweighed those for voice, standing at KZT16.7 billion and KZT16.3 billion respectively. (April 15, 2016) telegeography.com

## Kenya



According to the Communications Authority of Kenya, the East African nation ended 2015 with a total of 37.716 million mobile subscribers, an increase of 12.1% from 33.633 million twelve months earlier. Safaricom accounted for the majority of total wireless customers (24.409 million, giving it a market share of 64.7%), followed by Airtel Kenya with 7.237 million and Telkom Kenya (Orange) with 4.663 million wireless users at end-December 2015. The market's only MVNO, Finserve Africa (Equitel), had signed up a total of 1.407 million customers by the end of 2015, up by an impressive 29.6% quarter-on-quarter. Finserve Africa, a subsidiary of regional bank Equity Group, was awarded one of three MVNO licenses by the regulator in April 2014 and launched services the following October. Mobile data subscriptions rose from 16.339 million at the end of 2014 to 23.795 million twelve months later, with growth attributed to the increased affordability of internet bundles offered by service providers, arising from increasing competition. Safaricom accounted for 63.0% of total mobile data subscriptions, followed by Airtel with 18.0%, Orange with 14.0% and newcomer Finserve Africa (Equitel) with 5.0%. As of 31 December 2015 the Communications Authority of Kenya reported 111,354 fiber-optic broadband subscribers (up from 81,243 twelve months previously), 19,507 fixed-wireless data customers (17,537), 3,732 xDSL connections (down

from 14,512 at end-2014) and 489 satellite broadband users (712). Kenya ended the period under review with a total of 85,496 fixed telephony lines in service, a decrease of 52.5% from 179,990 at the end of 2014.

(April 8, 2016) telegeography.com

## Latvia



Plans to merge mobile provider Latvijas Mobilais Telefons (LMT) and fixed line operator Lattelecom – both of which are partly owned by the Latvian state and Sweden's Telia Company (previously TeliaSonera) – have been rejected by the Latvian government. The Swedish group submitted the proposals in November last year, stating that a merger would improve efficiency and the quality of service offered to customers. No reason was given for the rejection, although the anti-trust regulator had previously voiced concerns that combining the two companies would influence service quality and prices. Going forward, Minister of the Economy Arvils Aseradens was cited as saying that the privatization agency will be contracting an independent consultant to review the telecoms market and suggest future courses of action. (April 21, 2016) lsm.lv

## Malaysia



Malaysia-based Axiata Group has entered the Nepal telecoms market with the acquisition of the nation's largest mobile operator Ncell. Axiata has paid \$1.36 billion for an effective 80% stake in Ncell from previous owners TeliaSonera UTA Holdings and Reynolds Holdings' SEA Telecom Investments. Local partner Sunivera Capital Ventures will retain a 20% direct stake in Ncell, as required under Nepalese law. Axiata group CEO Dato' Sri Jamaludin Ibrahim commented that Ncell represents a perfect expansion opportunity for the group. "One key ambition we have is to effectively offer high-speed data connectivity, and exciting products and services to meet the demands of a young and maturing Nepali market," he said. "There are tremendous opportunities for us to grow with the nation for the longer term. As a Group respected for its commitment to corporate responsibility and governance, we will play an integral role with the Nepali government and civil society, and contribute towards the socioeconomic development of the country and her people." Axiata is already exploring synergies including opportunities to serve Nepal's overseas foreign workers segment, which number around 1 million in Malaysia alone. The operator plans to launch special products for Ncell customers offering discounted prices for Ncell customers roaming within the Ncell footprint. Axiata Group said its combined footprint in South and Southeast Asia now covers a total population of over 2 billion. (April 11, 2016) telecomasia.net

## Myanmar



Vietnam's operator Viettel, which last month was named the foreign partner for a local consortium awarded Myanmar's fourth mobile license, aims to build out nationwide network coverage within the first year

of operation and extend access to 95 per cent of the population within three years. The consortium of 11 local firms plans to invest a total \$1.5 billion to roll out a 3G-only network in 900MHz and 2.1GHz bands. Viettel said it aims to launch 4G services on the 1.8GHz band in the future, subject to additional licensing. Viettel was one of seven foreign bidders to express an interest in a tender, which opened at the end of last year. The country's telecoms sector was opened up to foreign competition in late 2013, when Telenor and Ooredoo won mobile licenses. They run mobile networks alongside state-owned incumbent MPT, which operates as a joint venture with Japan's KDDI and Sumitomo. Myanmar's mobile connections increased 150 per cent over the past year to 37.5 million, according to GSMA Intelligence. "We enter Myanmar when the country is forecast to witness accelerated economic growth, enhanced also through increased foreign direct investment," said Le Dang Dung (pictured below), deputy general director of Viettel Group. "Advancing the country's telecoms infrastructure will help us drive a surge in mobile and Smartphone subscription penetration, to achieve the government's target of reaching 90 per cent of the population by 2020. We believe that the role of telecommunications is fundamental in driving Myanmar's next phase of economic growth." He said with the combined strengths of Viettel's experience across markets, and the long-standing experience of its domestic partners, the consortium will cater to the demand for affordable and high-quality data services in the country. "Viettel has played a key role in transforming Vietnam's telecommunications landscape over the past several decades. As we apply that experience through our operations in Vietnam and nine global markets, our vision continues to be to extend connectivity to entire populations, providing unrestricted access across rural and urban geographies," Dung said. Viettel is run by the military and claims to serve nearly 80 million subscribers in ten countries in Asia, Africa and the Americas.

(April 18, 2016) mobileworldlive.com

## Netherland



The Dutch fixed telephony market grew by 1.2 percent during 2015 to end the year with 6.3 million lines. The market continues to expand thanks to growth in digital lines, which rose by 4.6 percent during 2015, helping to offset a fifth fewer PSTN/ISDN lines. While the number of lines is still growing, revenues from the services are falling, due to decreasing prices and less usage of fixed lines. Fixed telephony revenues dropped by 3 percent in 2015 to EUR 1.22 billion, including EUR 300 million in the fourth quarter of 2015. It is expected that these trends to continue in the coming years and forecasts a compound annual growth rate of 0.5 percent in connections and -2.1 percent in revenues over the period 2016-2020. The consumers subscribing to VoIP with DSL and fiber broadband will compensate for the decrease in traditional telephony as well as the slow decline in cable phone lines. Especially KPN still has significant room to sell to its DSL broadband customers, as around 30 percent don't have VoIP yet. As KPN's price level for DSL/fiber VoIP is effectively zero compared

to EUR 12-21 per month for traditional telephony, the revenues from fixed telephony will continue to decline. Digital telephone lines in the Netherlands reached 5.55 million on 31 December 2015, driven by 4.2 percent annual growth in VoIP users on DSL networks and a 29.4 percent increase in VoIP subscribers on fiber. There are now almost 2.1 million VoIP subscribers on DSL and almost 800,000 over fiber. Over the same period, cable networks lost 0.8 percent of VoIP subscribers, for a total of almost 2.7 million lines. (April 8, 2016) [telecompaper.com](#)

## New Zealand



New Zealand's competition watchdog announced the start of a consultation into the non-pricing terms of Chorus' wholesale offer for access to its copper network. The Commerce Commission published a consultation document designed to help it ascertain whether Chorus' regulated unbundled bitstream access (UBA) offer meets the needs of the end users. Specifically, it is addressing the standard terms definition (STD) of the offer, which covers the technical features of the service Chorus provides, as well as the price. The Commission tackled the pricing issue last year, publishing its final decision on the wholesale prices Chorus is allowed to charge for UBA and unbundled copper local loop (UCLL) in December. The UBA STD was set in 2007, before the separation of Chorus from incumbent operator Spark, then known as Telecom Corp. As a result, the non-price terms now need to be reviewed to ensure they remain fit for purpose in today's market. "While the regulated UBA service has evolved over time, we recognize that there remains some uncertainty over what Chorus is required to provide," said New Zealand's telecom commissioner Stephen Gale, in a statement. "By clarifying the technical features our aim is to ensure the regulated service remains suitable for typical broadband customers, and allows Chorus to develop commercial variants for specific user groups," he explained. Responses to the consultation are due by the end of the working day on May 5. The Commerce Commission aims to publish its draft decision in August, open up the process for further comment the following month, and issue a final decision in November. (April 7, 2016) [totaltele.com](#)

## Nigeria



The Executive Vice Chairman/Chief Executive Officer of the Nigerian Communications Commission (NCC), Prof. Umar Danbatta stated that renewal energy offers the telecommunications industry a viable path to delivering quality services. Addressing the 6th annual conference of the Renewable & Alternative Energy Society of Nigeria (RAESON) held at the National Centre for Energy Research and Development, University of Nigeria, Nsukka, Prof. Danbatta decried the inability of the telecommunications industry to offer quality services at all times, saying that erratic power supply has not only contributed to poor service delivery but has also increased operational cost. Danbatta, who was represented by NCC's Director Technical Standards, Engr. Fidelis Onah, said that RAESON is a critical stakeholder in telecommunications since its contributions would

help telecoms providers to deliver effective and efficient services to rural areas who are struggling with lack of power and access. Speaking on theme of the conference, "Renewable Energy in the National Energy Mix", he said: "Renewal and alternative energy sources have been in the forefront of proffering solutions to the challenges and crisis of global energy demands. It is one easy way of achieving cheap energy source and penetration. And this is not only about cost but also about its availability and sustainability. "No country can develop, especially the small scale industry without good sustainable and affordable energy source. Bringing solution to this industry will go a long way into alleviating the problems of unemployment and high cost of living." Danbatta who was conferred with the fellowship of the society (FRAES) for his commitment to supporting the adoption of renewal energy, added that private partnership would help the government to prioritize renewal energy projects to drive the growth and development of the country. "Poor funding, manpower, technology base, energy, industrialization and lack of political will have all affected the implementation of renewal energy projects," NCC's Vice-chairman/CEO had said. Earlier, Engr. Umar B Bindir, the president of the 6th annual conference and Secretary to the State Government, Adamawa State, urged the members of the society to monitor global trends on renewal energy in order to gain insights on not only the technologies used but also the policies made. Bindir, who was also represented by Prof. Raymond Akwule, said monitoring global trends will help the society to contribute enormously to addressing the energy problems of the nation. He encouraged the members of the society to look at global agencies which support societies like RAESON so that they can continue to promote research and innovation in order to solve pressing problems, particularly power problems bedeviling the country. (April 23, 2016) [thisdaylive.com](#)

MTN is close to reaching agreement with Nigerian authorities over the hefty fine it incurred last year, as evidenced by the fact that its interim CEO is preparing to step down, according to press reports. Phuthuma Nhleko, who took on the executive chairman role on a temporary basis after the resignation of then-CEO Sifiso Dabengwa in November, is making plans to leave his post next month, Bloomberg claimed, citing a source familiar with the situation. That is a sign he is confident the fine debacle will be resolved soon, the source said, since Nhleko has pledged to retain his operational role until he has come to an agreement with Nigeria's attorney general. When he took on the task, Nhleko said he would hold the executive chairman role for six months, a period that is due to come to an end in early May. The Nigerian Communications Commission (NCC) slapped MTN with a US\$5.2 billion fine in October for failing to disconnect unregistered SIM cards in accordance with its timetable. After reported attempts to resolve the situation, group CEO Dabengwa tendered his resignation. The NCC later reduced the fine to \$3.9 billion. There have been various rumors of a resolution over the past few months, but MTN has repeatedly urged shareholders to exercise caution when reacting to media reports on the subject. The telco issued a new, similar statement, this time explicitly denying that it has reached agreement with the

regulator. "The company has noted, with concern, the speculation and false information in the media," it said. "MTN particularly cautions against reports purporting that the company has agreed a resolution with the NCC on the fine," the company added. "It is false as no resolution has yet been reached. MTN continues to engage the authorities in Nigeria on this matter." MTN reiterated that it is still engaging with various authorities on the matter. (April 13, 2016) totaltele.com

## Poland



Two months after it announced the results of its LTE auction, the Polish telecoms regulator is still working on the allocation of spectrum due to the withdrawal of license winner Netnet, but according to local press reports it is hopeful of resolving the situation in the next month or soon afterwards. Magdalena Gaj, head of Poland's Office of Electronic Communications, known locally as UKE, told the Polish Press Agency that she is keen to bring the process to a close as soon as possible and make the frequencies won by Netnet commercially available. The regulator wants to make it happen by the end of April or mid-May at the latest, Gaj said. Netnet won one 5 MHz block of 800-MHz spectrum in last year's auction, agreeing to pay 2.05 billion zloty (€484 million), but has since reneged on the deal. According to the Polish Press Agency report, under the auction guidelines, the aforementioned spectrum should be sold to the second-highest bidder in that block, which in this case was T-Mobile. However, T-Mobile would prefer to swap frequencies with another winner, P4, which picked up spectrum neighbouring T-Mo's existing holdings. P4 is reportedly disinclined to trade, claiming that such a move would incur legal risks. Gaj said the regulator has a possible solution to the problem, but declined to comment further at this stage. (April 1, 2016) totaltele.com

## Portugal



In a decision of April 7, 2016, Portuguese telecoms regulator ANACOM rejected full-service telco Nos's appeal against the watchdog's previous decision of 10 March 2016, which effectively brought into force the full gamut of 4G LTE service coverage obligations for all holders of 800MHz mobile licenses auctioned in December 2011. The regulator said in a statement on its website that it saw no reason to suspend its decision, and that to do so would be against the public interest. In the March decision, ANCOM officially notified the 800MHz concession holders – MEO, Vodafone and Nos – that a period of restrictions on commercial mobile operations in the 'digital dividend' 4G frequency range had ended, thereby bringing into force the full network coverage stipulations under the licensing conditions. Consequently, within six months from the date of notification the operators must cover 50% of a specified list of underserved municipalities (finalized under a decision of 22 August 2013), and within one year they must cover 100% of the areas in question. Minimum reference mobile data speeds must also be met in the specified coverage areas (under terms finalized by a decision of 3 March 2016). Portugal completed its

analogue-to-digital TV switchover in April 2012, allowing cellcos to utilize their newly-won 800MHz frequencies, whilst in September that year ANACOM specified 480 municipalities lacking mobile broadband connectivity, before subsequently assigning coverage obligations for these municipalities to the three licensees (160 areas each) the following year. However, certain restrictions on the 800MHz frequencies' usage in border regions continued to apply, meaning that the full coverage obligation for the underserved list of municipalities was not enforced until last month's notification (as per the regulation of October 2011 referenced by ANACOM in its website announcement). Details contained in an annex to the regulation indicate that restrictions on usage in border areas in 2012-2015 were designed to prevent interference to broadcasting stations in Spain and Morocco under the framework of previous International Telecommunication Union (ITU) agreements, imposing conditions including maximum permissible base station field strength at the border. Furthermore, ANACOM confirmed that a 50% discount on annual 800MHz spectrum fees – which had been granted for all three licensees – has now been retracted, due to the lifting of all restrictions on the licensed frequencies' usage.

(April 12, 2016) telegeography.com

## Senegal



The Ministry of Posts and Telecommunications (MINPOSTEL) of Senegal has revealed it is looking to overhaul the country's legislative framework to reflect the new demands of ICT and telecommunications in the 21st century. Malick Ndiaye, chief of staff at MINPOSTEL, confirmed the plans on April 19 during a workshop to discuss the development of the SME sector in Senegal, a meeting set up by OPTIC, a group representing professionals in this field. The official says that work on updating the legal framework of the telecommunications sector is expected to start before the second half of this year, with the Senegalese News Agency (APS) quoting Ndiaye as saying it will 'upgrade the telecommunications and ICT sector to allow it to face the socio-economic, technological and legal changes faced, [in the process] conducting an audit to take account of new issues that [may] arise'. In the period 2005-2014, the Senegalese telecoms sector recorded an average growth of 10% in turnover year-on-year, and today contributes 7% of the GDP of Senegal.

(April 21, 2016) telegeography.com

## South Korea



South Korea's three mobile network operators – SK Telecom, KT Corp and LG Uplus – have reportedly filed their applications to participate in the country's upcoming spectrum auction. The Ministry of Science, ICT and Future Planning (MSIP) confirmed the development, noting in a statement: 'The ministry will soon start a reviewing process of the applicants and begin the bidding process later this month.' A total of five blocks in the 700MHz, 1800MHz, 2100MHz and 2.6GHz bands are set to be offered up via an auction which is expected to raise at least KRW2.6 trillion (US\$2.3 billion) in total.

(April 20, 2016) The Korea Herald

SK Telecom, KT and LG Uplus will stand trial for violating Korea's stringent mobile subsidy law. This is according to a Yonhap report late last week, which said that the Seoul Central District Prosecutor has also indicted several current and former board members who were in charge of sales at the three telcos when the offences were committed. In late 2014, SK Telecom, KT and LG Uplus were found to have offered illegal discounts on the then new iPhone 6. Under Korea's Mobile Device Distribution Improvement (MDDI) Act – which came into force in October 2014 – operators are not allowed to exceed the upper limit set by the Korea Communications Commission (KCC). When the iPhone 6 launched, the upper limit was 300,000 won (€230). However, according to Yonhap, prosecutors suspect that SK Telecom, KT and LG Uplus offered subsidies of KRW460,000, KRW560,000, and KRW413,000 respectively on the device. Each telco was fined at the time, but it now appears they will stand trial – the first time this has happened since the MDDI Act came into force. The law permits fines of up to 3% of annual sales. Individual retailers that break the rules can also be fined. (April 12, 2016) [totaltele.com](#)

A decision by South Korea's Fair Trade Commission's (FTC's) on the proposed merger between SK Broadband, a unit of the nation's largest cellco by subscribers SK Telecom (SKT), and cableco CJ HelloVision has been postponed. With the local press outlet noting that the FTC is now planning to reach a final decision on the matter at a plenary meeting scheduled to be held towards the end of April, it adds that a final ruling on the mooted tie-up from the government is likely by late-May at the earliest, after reviews by both the Ministry of Science, ICT & Future Planning (MSIP) and the Korea Communications Commission (KCC). Although the FTC was technically required to reach a decision on the deal within 120 days (i.e. by April 1, 2016) as per the Fair Trade Act, the report notes that the watchdog has made use of a term allowing for supplementary data acquisition to delay its ruling. (April 5, 2016) [BusinessKorea](#)

## Sweden



Telecoms regulator PTS, has issued an invitation to market participants to comment on the auction rules and conditions for the upcoming sale of mobile broadband licenses in the 700MHz band scheduled for late-2016. The watchdog has identified gaps in national coverage for voice and/or data (10Mbps) and has published map data to illustrate this; one 700MHz (2x10MHz) license will carry coverage obligations to serve these specific areas. Bidders for this license must pledge investment of at least SEK200 million (US\$24.6 million), whilst maximum necessary investment is estimated at SEK300 million; in the event of a winning bid/pledge exceeding SEK300 million the excess amount will be taken as auction proceeds for the state treasury. Minimum bids for the other four 700MHz (2x5MHz each) spectrum blocks are set at SEK100 million, whilst a 2x20MHz spectrum cap is proposed to ensure there will be at least two licensees in the band. Market participants have until May 27 to respond. The 700MHz band is currently used for terrestrial television, but the Swedish government has decided that the band

should be available for other uses (including mobile broadband) from April 1, 2017. (April 19, 2016) [telegeography.com](#)

## Thailand

 Thailand's military-led government has invoked Section 44 of the country's interim constitution to impose a schedule and terms for re-auctioning the 900MHz technology-neutral spectrum license which Jas Mobile recently won but failed to pay for. The date for the new auction is now set for May 27, 2016, under the order which was published in the Royal Gazette and took effect on Tuesday. Jas is barred from the new auction but True Corp – the winner of the other 900MHz block in December's auction – can join, since the order requires the contest to be open to all except for violators of the National Broadcasting & Telecommunications Commission (NBTC) rules. The starting price is set at THB75.65 billion (US\$2.16 billion), i.e. the winning bid placed by Jas in December, while each bidder in the new auction must put up a guarantee of THB3.78 billion. Furthermore, the order stated that Advanced Info Service (AIS), which currently uses the unpaid-for 900MHz spectrum block to serve 2G users, will be permitted to continue doing so until June 30, 2016 or until the NBTC grants the license to the winner, whichever comes first (in the event of AIS not winning the license). AIS had previously been scheduled to lose usage of the band on April 14. (April 13, 2016) [The Bangkok Post](#)

Thailand may bring forward the re-auction of forfeited 4G spectrum to May, and has rejected mobile operator AIS's offer to acquire the frequencies. According to a report by the Bangkok Post on Friday, Deputy Prime Minister Wissanu Krea-ngam wants to begin the process as soon as possible, which could be in mid-May. The controversial section 44 of Thailand's interim constitution – which grants the government power to impose laws "for the benefit of reform in any field" – could be invoked in order to speed things along, he said. The report also claimed that the regulator, the National Broadcasting and Telecommunications Commission (NBTC), has rejected an offer from AIS to acquire the spectrum for 75.65 billion baht (€1.93 billion), equal to Jas Mobile's winning bid in December's 4G auction. The reason given was that the watchdog wants to give all telcos the chance to purchase the frequencies. Thailand is scrambling to allocate the second of two 900-MHz 4G licenses that were auctioned in December. The license in question was won by Jas Mobile, but it forfeited the spectrum after missing the March 21 payment deadline. The NBTC initially planned to re-auction the airwaves on 24 June; however, it seems the government does not want to wait that long. Unsurprisingly, Jas Mobile will not be allowed to take part. (April 8, 2016) [totaltele.com](#)

The five-member board of Thailand's telecoms regulator has voted 3:2 against allowing True Corp to participate in the re-auction of 900MHz spectrum, scheduled for June 24 this year. True won one of two tech-neutral 900MHz licenses auctioned last December, whilst start-up Jas Mobile won the other concession but failed to come up with the financing to pay for it. Previously,

the NBTC's Secretary General Takorn Tantasit had said that True could be included in the re-auction for Jas' forfeited license. Despite the starting price being set at the sky-high value of Jas' winning bid of THB75.65 million (US\$2.14 billion), the country's largest cellco AIS has expressed its interest. TelecomAsia writes that AIS has also sent a letter to the NBTC claiming that it could pay the THB75.65 billion asking price 'in a couple of months' once it gains shareholder permission, while asking the regulator for permission to continue using out-of-concession 900MHz for 2G in the meantime. AIS' existing 900MHz service is scheduled to be switched off on April 14. (April 6, 2016) TelecomAsia

The National Broadcasting and Telecommunications Commission announced it will hold a new auction round for the 900 MHz spectrum license on June 24. NBTC's telecom committee has decided that the reserve price for the 900MHz auction will start from Jas Mobile Broadband's winning price of THB 75.7 billion, which will then rise by increments of 152 million. NBTC Secretary General Takorn Tantasith insisted that the reserve price for the new auction of the 900MHz spectrum started at JAS's winning bid. Interested bidders are required to submit a guarantee equivalent to 5 percent of JAS's winning price of THB 75.65 billion, that is THB 3.78 billion. Bidders will also have to pay the NBTC an additional THB 11.35 billion if they fail to make the license payment. The regulator can confiscate the guarantee of THB 3.78 billion plus the compensation in case the license winner fails to make the payment. "In the worst-case scenario, if the re-auction sees another bid winner defaulting, we will get at least 15.13 billion baht, or 20% of JAS's winning price", Takorn Tantasith said. The telecom committee will submit the final draft for the 900 MHz re-auction to the NBTC's board on 5 April for approval, he added. All interested bidders are allowed to participate in the new auction, with the exception of JAS. If the new auction round fails to attract any bidders, the NBTC plans to suspend the auction for one year. Interested bidders will be able to purchase the bidding documents between May 13 and June 12, and submit them on June 13, together with the guarantee of THB 3.78 billion. (April 4, 2016) Bangkok Post

## Ukraine



Ukraine's National Commission for the State Regulation of Communications & Informatization (NCCIR) has reserved spectrum in the 2.3GHz-2.4GHz and 2.5GHz-2.7GHz bands for upcoming competitive auctions for 4G LTE mobile broadband licenses, it confirmed on its website. The NCCIR intends to hold a tender for a nationwide license in the 2.3GHz-2.4GHz range; frequencies in this band are currently held by a company named S-Line, but the NCCIR has refused to renew S-Line's licence which expires on April 20, 2016. Ukraine's cellular market leader Kyivstar would theoretically have gained access to the 2.3GHz-2.4GHz spectrum, as it indirectly inherited the resource through the merger of Golden Telecom (now part of Kyivstar) and S-Line (itself backed by Russian businessman Yevgeny Roitman, according to BizLiga). In the 2.5GH-2.7GHz band, the NCCIR has decided to pursue a regional

licensing competition in certain areas of the country. Various licenses in this band are currently held by MMDS Ukraine, an associate company of Rinat Akhmetov' SCM Group, the parent of nationwide incumbent telco Ukrtelecom, and a recent Kiev court decision overruled the watchdog in its attempts to block MMDS Ukraine from renewing its concessions. (April 12, 2016) BizLiga

## United Kingdom



OFCOM is seeking input on whether spectrum in the 3.8 GHz-4.2 GHz band could be shared in order to free up more capacity that could be potentially used for wireless broadband. The frequencies are currently used for fixed satellite services and point-to-point connectivity for things like backhaul. Fixed-wireless operator UK Broadband also uses an 84 MHz chunk of 3.9-GHz-4.0-GHz spectrum for its Relish Internet service. "We believe this band poses a good opportunity and potential for more intensive usage by innovative applications/services, while taking into account incumbent services," said OFCOM, in its consultation document. The U.K. regulator's initial thoughts centre on allocating licenses on a geographic basis, and providing opportunistic spectrum access (OSA) provided it doesn't cause undue interference. "Where there is potential benefit to new sharing we will need to consider the associated changes carefully, taking account of the benefits that incumbent services deliver to citizens and consumers," OFCOM said. The consultation will close on 9 June. Meanwhile, OFCOM has also published a framework that sets out how it will consider the potential for sharing frequencies when allocating spectrum in future. The framework considers what the spectrum is currently used for and what it could be used for going forward. It also looks at any barriers that may limit the extent of current or future sharing opportunities, and any regulatory or technical tools that could be used to facilitate new or more intense sharing of frequencies. "The framework will continue to evolve over time, as a result of market and technology developments," OFCOM said. "Its application requires judgment to identify which barriers, tools and enablers may be relevant and which spectrum options may be suitable, in line with the characteristics of use in a particular case." (April 16, 2016) totaltele.com

Telecoms regulator OFCOM has published a framework which it will apply to future spectrum authorization decisions in order to assess spectrum sharing opportunities. The watchdog claims that the new framework, which follows a consultation launched back in July 2015, 'reflects the need to consider carefully the circumstances of each potential opportunity, covering its costs and benefits'. The framework consists of three key elements to help identify potential sharing opportunities in particular bands, those being: characteristics of use for both incumbent and prospective users that inform an initial view of the potential for sharing and what tools may be relevant; barriers that may limit the extent of current or future sharing, despite the liberalization of licenses and existing market tools such as trading or leasing; and regulatory tools and market and technology enablers that match the characteristics of

use and barriers to facilitate new and/or more intense sharing. OFCOM has also invited stakeholder comments on the first new opportunity for spectrum sharing in the 3.8GHz-4.2GHz band, and a consultation on this matter is due to run until 9 June 2016. According to OFCOM, its preliminary analysis indicates that the band in question 'is suitable for more intensive sharing, while taking into account incumbent services'. (April 15, 2016) [telegeography.com](#)

The Competition and Markets Authority (CMA) issued a stern warning about 3UK's proposed merger with O2 to the European Commission, claiming that the tie-up could cause long-term damage to the mobile market. In a letter addressed to EC competition commissioner Margrethe Vestager, CMA chief executive Alex Chisholm said that the remedies offered by 3UK parent CK Hutchison "fall well short" of countering the potential loss of competition resulting from the deal. "The proposed remedies are materially deficient as they will not lead to the creation of a fourth mobile network operator (MNO) capable of competing effectively and in the long-term with the remaining three MNOs such that it would stem the loss of competition caused by the merger," he said. CK Hutchison has pledged to freeze prices for five years, and invest £5 billion in its U.K. mobile operations over the same period if its acquisition of O2 is waved through. It has also offered to sell mobile network capacity to facilitate the entry of new competitors. A report last week claimed that Hutch has already agreed a £2 billion to sell 20% of the capacity of the merged mobile network to Sky. The same report claimed that it has struck a similar deal with Virgin Media for a further 10%. This is not enough for the CMA though. Chisholm wants to see Hutchison divest either the 3UK or O2 mobile network in its entirety, or hive off physical assets and spectrum sufficient to create "a commercially viable" fourth player. "Absent such structural remedies, the only option available to the Commission is prohibition," he said, on the grounds that the merger is likely to lead to higher prices. Monday's news prompted Swedish telco consultant Bengt Nordstrom to issue a stern warning of his own. "If regulators and competition authorities only focus on consumer prices, we will be the last industrialized region in the world to reach 5G," he said. Nordstrom said that consolidation will foster long-term investment in infrastructure, and healthy competition at both a network and service level. He also said that preventing the 3UK/O2 deal will put BT, which recently completed its acquisition of EE, at an insurmountable advantage. "Alex Chisholm believes that the entire mobile network of O2 or 3 should be sold to an appropriate buyer. But who would be the buyer?" The business case for a new entrant in a mature market is very weak," Nordstrom continued. "If the EU and national regulators are to base a competition policy on a minimum of four players per market, what they are in reality wishing for is ignorant investors or born-to-lose operators," he said. The European Commission has set a provisional deadline of 19 May to issue a decision on the 3UK/O2 merger. (April 11, 2016) [totaltele.com](#)

OFCEM launched a consultation on the Universal Service Obligation (USO), which will give consumers the right to request a minimum of 10 Mbps broadband. "We are

seeking views from consumers and industry to inform our analysis of the options for designing and implementing the broadband USO. Responses to this call for inputs will inform recommendations we put to government," the U.K. regulator said, in its consultation document. The consultation addresses numerous factors, such as what constitutes an acceptable level of broadband service, how much it should cost, and whether it should be subsidized for low-income households. OFCEM also wants to find out the likely level of demand for USO broadband, how much the scheme is likely to cost in terms of funding new networks and operating services, and whether to create a single Universal Service Provider (USP) or create several, potentially divided along geographical lines. In addition, the consultation is also keen to establish the extent to which the USO could distort broadband competition. OFCEM said it is keen to ensure that the USO builds on existing commercial and community networks, rather than displaces them. The government floated the idea of a new broadband USO in November 2015. It proposed giving every consumer the right to request a broadband service with a speed of at least 10 Mbps, putting broadband access on a similar footing to utilities such as electricity and water. Under the plan, the minimum speed will increase over time to keep up with growing demand and advances in technology. OFCEM's consultation will be open for comment until June 23. The regulator is due to make its recommendations on the USO by the end of 2016. (April 7, 2016) [totaltele.com](#)

## United States



CenturyLink, Frontier Communications and FairPoint Communications are seeking funding from the Federal Communications Commission to support voice services in certain remote and high-cost areas of the nation that they described as "uneconomic to serve." While commending the FCC for adopting rules to fund the second phase of the Connect America Fund (CAF) – a multibillion-dollar subsidy program to bridge the digital divide – the telecommunications carriers requested aid to support Americans who are not covered by the broadband subsidies, still dependent on voice services, and live in rural areas that are very expensive to serve. In an April 5 letter to the FCC, the top executives of CenturyLink, Frontier and FairPoint expressed their understanding that the FCC was considering whether to include areas of the country that are not covered by the broadband subsidies in a competitive bidding process, which marks the next step of CAF II funding. But for now, the FCC has stopped providing support used to maintain the carriers' voice networks in those areas, the letter noted. "This loss of voice support in effect amounts to an unfunded mandate to provide voice service to extremely remote, high-cost areas that are uneconomic to serve," wrote CenturyLink CEO Glen Post, Frontier CEO Daniel McCarthy and FairPoint CEO Paul Sunu. "At the same time, these are the areas where the Universal Service Fund has the maximum impact; these are areas where voice services are essential for seeking help during natural disasters such as fires, floods, and tornados." An FCC spokesman did not immediately respond Friday to a request for comment on the letter. "According to the FCC's own model, the estimated costs of continuing to serve these areas are extensive--more than \$1 billion,"

Frontier spokeswoman Brigid Smith said in an emailed statement to Channel Partners. "CenturyLink and Frontier have requested only \$176 million in interim funding to ensure that these customers can maintain service while the FCC continues to consider a long-term solution for serving these areas. These are the very highest cost areas, and although the FCC recognizes that carriers need support to provide service in these areas, it is not currently providing support to do so." The FCC last year authorized 10 telecom carriers – including CenturyLink, Frontier and FairPoint – to receive nearly \$9 billion in CAF II funding over six years. Combined with the carriers' own investments, the funding will expand broadband to nearly 7.3 million rural customers in 45 states and one U.S. territory, the FCC noted last September in a news release. CenturyLink, alone, has accepted roughly \$500 million a year for six years in funding. The Monroe, Louisiana-based company said it would expand broadband to 1.2 million rural homes and businesses in 33 states. Frontier, which is receiving \$330 million in CAF II support annually through 2020, is extending broadband to more than 750,000 homes and businesses, Smith said. (April 8, 2016) [channelpartnersonline.com](http://channelpartnersonline.com)

The broadband labels—which are modeled after nutrition labels—will include prices, hidden fees, overage fees, data allowances, broadband speed and other performance metrics. "Customers deserve to know the price they will actually pay for a service and to be fully aware of other components such as data limits and performance factors before they sign up for service," said Tom Wheeler, FCC Chairman, in a press release. According to the FCC's press release, the government agency receives more than 2,000 complaints on a yearly basis about "surprise fees associated with consumers' internet service bills." These labels are intended to provide greater transparency and cut back on consumer confusion. But ISPs aren't mandated to issue the labels. Right now, they are merely recommended by the FCC's Consumer Advisory Committee, which included representatives from Verizon, T-Mobile, CenturyLink and the National Cable & Telecommunications Association. There is nothing new on the labels. In fact they contain information Internet Service Providers are required to disclose to consumers under the FCC's Open Internet transparency rules, which were passed last year. The rules still need further approval from the Office of Management and Budget but would require companies to make more specific disclosures about their services and fees. Really, the labels are just meant to streamline the dissemination of this information. (April 4, 2016) [forbes.com](http://forbes.com)

The U.S. Federal Communications Commission (FCC) this week voted in favor of a proposal to provide a broadband subsidy to help low-income households access the Internet. The decision extends the FCC's Lifeline program – which contributes US\$9.25 towards the monthly cost of fixed voice services to eligible consumers – to include standalone fixed or mobile broadband, as well as bundles of fixed or mobile voice and data services. "Consumers need Internet access for full and meaningful participation in society. Yet 43% of [the] nation's poorest households say they can't afford modern broadband service," the FCC said on Thursday.

"To help close this digital divide, the order adopted by the Commission today refocuses Lifeline support on broadband, which will enable low-income Americans to share in the 21st century opportunities that access to the Internet provides." Minimum standards of 10 Mbps downlink and 1 Mbps uplink speeds and a 150 GB monthly usage allowance will apply to fixed services. Usage allowances for 3G-based mobile data services will start at 500 MB per month from December 2016, rising to 1 GB by the end of 2017, and 2 GB by the end of 2018. To ensure the Lifeline program is not abused, the FCC will establish a National Eligibility Verifier, a neutral third party responsible for preventing ineligible consumers from receiving subsidies. It is also designed to reduce the administrative burden on telcos. "We applaud the FCC's modernization of the Lifeline program that will help to bring the transformative benefits of the Internet to millions of low-income Americans," said Walter McCormick Junior, CEO of broadband lobby group USTelecom, in a statement. "By establishing a national system for verifying consumer eligibility for the program, the FCC can work toward reducing instances of waste, fraud, and abuse," he continued. "We look forward to working with the Commission to implement the changes in the program." (April 1, 2016) [totaltele.com](http://totaltele.com)

The U.S. Federal Communications Commission on Thursday advanced a proposal to ensure the privacy of broadband Internet users by barring providers from collecting user data without consent. The proposed regulation from FCC Chairman Tom Wheeler won initial approval with a 3-2 vote to require broadband providers to obtain consumer consent, disclose data collection, protect personal information and report breaches -- but would not bar any data collection practices. "It's the consumers' information and the consumer should have the right to determine how it's used," Wheeler said. Broadband providers currently collect consumer data without consent and some use that data for targeted advertising, which has drawn criticism from privacy advocates. Wheeler's proposal does not prohibit Internet providers from using or sharing customer data for any purpose. The FCC would not extend the broadband provider privacy rules to sites such as Twitter, Google or Facebook, drawing the ire of providers. Republican Commissioner Ajit Pai said Thursday there is no good reason to single out broadband providers for regulations, while not regulating websites. The plan "favors one set of corporate interests over another," he said. The FCC has authority to set privacy rules after it reclassified broadband providers last year as part of new net neutrality regulations. A federal appeals court has not ruled on a challenge to that decision. A final vote on new regulations will follow a public comment period during which the FCC is asking for possible "additional or alternative paths to achieve pro-consumer, pro-privacy goals." Under the rules providers would need to tell consumers what information is being collected, how it is being used and when it will be shared. They would also be required protect data under a data security standard. Consumers would need to be notified of breaches of their data no later than 10 days after it was discovered. Ratings agency Moody's Investors Services said earlier the proposal to impose privacy restrictions on broadband providers such as Verizon Communications Inc, AT&T

Inc, Comcast Corp is "credit negative." Advocacy group Free Press praised the FCC for moving ahead and said the commission must consider other issues in setting rules including "pay-for-privacy, deep-packet inspection, up selling services, competition and data security." The National Cable and Telecommunications Association urged the FCC to adopt a "technology neutral approach by treating companies with access to similar user information the same." (March 31, 2016) reuters.com

The Federal Communications Commission's highly anticipated 600 MHz incentive auction kicked off this week in what is expected to be a complicated process running well into the second half of the year. The process began with television broadcasters making their initial bid commitments by end of day on March 29, which the FCC will then use to begin the reverse auction aspect of the proceedings. The reverse auction will determine the price at which broadcasters will voluntarily relinquish their spectrum usage rights in the 600 MHz band. Television broadcasters interested in giving up some of their current spectrum holdings in the 600 MHz band had until Jan. 12 to file an application with the FCC, with a statement from the National Association of Broadcasters indicating "robust" participation from television broadcasters. "The FCC's staff has done a remarkable amount of work to get us to this point," explained NAB EVP of communications Dennis Wharton, in a statement. "NAB expects robust broadcaster participation in the reverse auction, and we hope to see similarly robust participation from wireless bidders in the forward auction. While we've expressed our concerns, we hope that the rules and systems the FCC has in place will ensure that this voluntary auction goes off without a hitch, and we look forward to the close of a successful auction." The reverse auction process is expected to take anywhere from three weeks to two months, at which point the FCC will take a break in the proceedings to repackage the spectrum offered up by the broadcasters into chunks that can be used by commercial cellular providers. Analysts predict the FCC could have between 80 megahertz and 110 megahertz of spectrum available for the auction's more conventional forward auction process. "The lynchpin joining the reverse and the forward auctions is the 'repacking' process," the FCC noted. "Repacking involves reorganizing and assigning channels to the remaining broadcast television stations in order to create contiguous blocks of cleared spectrum suitable for flexible use. The vast majority of stations that remain on the air after the auction will be assigned channels in the TV band; in a few markets where the post-auction TV band is not large enough to accommodate every station, stations may be assigned a channel in the wireless band." The FCC had previously said it will set aside 30 megahertz of the repackaged spectrum for carriers that do not already control a significant amount of sub-1 GHz spectrum holdings, which is predominately made up of AT&T and Verizon Communications. T-Mobile US is expected to be the most aggressive bidder for the set aside spectrum, with some predicting the carrier could spend up to \$10 billion on licenses. While not eligible for the set aside licenses, analysts predict AT&T could bid between \$10 billion and \$15 billion for licenses – having committed to at least \$9 billion in bids as part of gaining

approval of its DirecTV acquisition – while Verizon is predicted to bid around \$10 billion. Overall estimates for the auction have ranged from \$25 billion to in excess of \$80 billion in total proceeds, with most in the \$35 billion to \$45 billion range. The FCC's AWS-3 auction, which finished up early last year, took in a record haul in excess of \$41 billion. (March 29, 2016) rcrwireless.com

## Zimbabwe



The government's National Social Security Authority (NSSA) has reportedly reached an agreement with Empowerment Corporation (E Corp) to acquire its 40% stake in the country's third mobile operator, Telecel. Local newspaper The Herald reports an acquisition price of US\$20 million for a deal which will fully nationalize the struggling cellco. E Corp is a consortium of local investors whose owners include James Makamba's Kestrel Corporation, Leo Mugabe's Integrated Engineering Group (IEG) and Jane Mutasa's Indigenous Business Women Organization. The state investment fund NSSA has already helped the government take a 60% interest in Telecel, providing USD30 million of the US\$40 million needed to buy out VimpelCom in a deal announced in November and completed last month. That transaction was carried out via ISP Zarnet, which is a unit of state-owned fixed line telco TelOne. Telecel has seen its customer base decline to below two million, while rival operators Econet and NetOne continue to post subscriber gains. (April 11, 2016) telegeography.com

The Postal and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ) says that the country's three mobile operators are all behind with payments to the Universal Service Fund (USF). As per media report POTRAZ Acting Director Baxton Sirewu said that cellular market leader Econet has been the biggest contributor so far, handing over US\$53 million of the US\$67 million total payments since the fund was set up in 2009. State-backed rivals Telecel and NetOne have paid US\$10 million and USD4 million respectively. The regulator has not disclosed how much each operator still owes to the fund. At the start of this year the government raised the required level of contributions, from 0.5% of a telco's gross annual turnover to 1.5%. Authorities expect the hike to raise USF payments to a combined USD13 million in 2016. (April 5, 2016) The Herald

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## ▼ WHOLESALE NEWS

### WHOLESALE UPDATES

#### ACCC publishes final access determination for DTCS

A final decision on the prices for the declared Domestic Transmission Capacity Service (DTCS) has been published by the Australian Competition and Consumer Commission (ACCC). In its final access determination (FAD) the regulator has set DTCS pricing significantly lower than in its previous ruling from 2012: average prices for short distance, low capacity services (2Mbps) will be cut by 13% in metro areas and 22% in regional areas; and average prices for long distance, high capacity services (100Mbps) are to be reduced by 76% in metro areas and 78% in regional areas. However, the ACCC has noted that the extent of the reduction in pricing for a specific part of the market will 'depend upon the geographic route type, capacity, and distance of a particular service'. The transmission prices are based upon a domestic benchmark of prices in competitive areas. Following the publication of the draft decision in September 2015, further consultation and analysis of the data prompted the ACCC to make some adjustments to the model, particularly for the pricing of low capacity, short distance services which are used to provide voice services in the corporate and government sectors. The

FAD also sets an uplift factor for services to Tasmania, which seeks to account for the increased costs and risk in providing services which use an undersea cable component. Commenting on the final ruling, ACCC chairman Rod Sims was cited as saying: 'We have seen a downward trend in commercial transmission prices in recent years and this trend is reflected in lower DTCS pricing, particularly on high capacity, regional routes ... Because transmission is an essential input for many services, we consider that lower prices will promote competition in downstream markets and put more downward pressure upon wholesale transmission prices, particularly in regional areas. We expect that these lower prices will be passed on to end users in the form of lower prices and new, innovative services.' The prices for the DTCS will apply from 21 April 2016 to 31 December 2019.

#### Uganda to scrap international call tax

The government of Uganda is proposing scrapping the USD0.09 per minute tax which is currently levied on incoming international calls. According to local newspaper The Daily Monitor, Ugandan telcos have complained that many calls are illegally routed through neighboring countries such as Kenya and South Sudan

which are part of the One Network Area scheme and are consequently billed as local calls, losing money for the legitimate operators. The Excise Duty (Amendment) Bill 2016 states: 'The complete removal of the duty was

use roaming through Axiata Group network in those countries, they will be able to make and receive calls at Rs 15 per minute, send SMS at Rs 15 and use data at Rs 15 per MB. Incoming SMS remains free of charge. Discounted rates are valid on outgoing calls to Nepal and respective roaming countries in the Axiata Group network. At present, it costs between Rs 49 to Rs 549 per minute to call Nepal from Bangladesh, Rs 349 from Cambodia, Rs 599 from Malaysia and Rs 49 to Rs 149 from Sri Lanka, depending on the operator. Similarly,

contracts signed with partners abroad, reports El Impulso. The decision taken by the operator is due to the increased costs as a result of the entry into force of floating currency rates applied to the telecommunications sector, which requires the updating of prices of international services.



necessary due to unregulated operators routing incoming international calls via One Network Area countries and other routing mechanisms, which had led to a significant reduction in the volumes of inbound traffic and interconnect fees for the resident telecom operators. This had a corresponding negative impact on the tax revenues generated by the resident operators.' While traffic on international calls fell to 3.3 million minutes in December 2015, from nine million twelve months earlier, the traffic originating from Kenya and South Sudan more than doubled over the same period.

customers sending text message to Nepal from these countries are required to pay Rs 20 to Rs 60 per SMS. Ncell Axiata roam offer is coming into effect from Nepali New Year 2073 BS, that is, April 13, and will be valid until the next notice. Customers will enjoy this rate once they activate the roaming service. Prepaid customers can activate roaming service by typing 'A' and sending SMS to 900228, while postpaid customers can visit the nearest Ncell Centre for the activation.

## Ooredoo Oman offers unified roaming tariff for GCC

Ooredoo Oman has unified its tariffs for customers traveling to Gulf Cooperation Council countries with the introduction of its 'GCC One region, One tariff' scheme. This follows Oman's Telecommunications Regulatory Authority's (TRA) requirement for a common regional roaming price structure. From 01 April, all Ooredoo Shahry and Mousbak customers get the same standard rate for local roaming calls, data and SMS, whichever GCC country they travel to and whichever operator they use. Ooredoo has not only simplified its roaming structure but also reduced the cost of local calls, calls back to Oman, data and SMS messages within the GCC. Ooredoo customers will now be able to make local calls during their travels for OMR 0.100 a minute and SMS will be charged at OMR 0.31. Travelers to the GCC will also be able to access data at the greatly reduced rate of OMR 0.500 per MB. Receiving calls from home will cost OMR 0.135 per minute. Ooredoo customers do not need to opt in to 'One Region, One Tariff' as charges will be applied automatically. Travelers who prefer to opt for a bundle can choose the Musafir UAE and Musafir GCC plans, which provide data allowances.

## New flat-rate roaming offer launched in Nepal

On the occasion of Ncell becoming a part of the Axiata Group, Ncell has unveiled Ncell Axiata roam offer, under which all Ncell customers travelling to Malaysia, Sri Lanka, Bangladesh and Cambodia will enjoy attractive discounts on roaming rates while staying connected through Axiata Group network. Under the offer, Ncell prepaid and postpaid customers will be able to communicate with their dear ones back home at a flat rate of Rs 15, including taxes, when latched with Celcom Axiata network (Malaysia), Dialog Axiata network (Sri Lanka), Robi Axiata network (Bangladesh) and Smart Axiata network (Cambodia), as per a statement issued today. What this means is that when Ncell customers

## African regulators to harmonize roaming

The West African Telecommunications Regulatory Assembly (WATRA) said it is working towards harmonizing the roaming activities of the Economic Community of West African States (ECOWAS). The group said guidelines are already being developed for a seamless interconnection and roaming of telephone users in the West African sub-region. Its Executive Secretary, Alhaji Maman Laminou who spoke.

## Digitel suspends int'l services due to currency crisis

Venezuelan operator Digitel has indefinitely suspended its international long distance and roaming services for fixed and mobile telephony due to the impossibility of canceling the

## Aircel, BSNL sign nationwide GSM roaming pact

Indian mobile operator Aircel has revealed that it has signed a nationwide 2G Intra-Circle Roaming (ICR) agreement with state-owned Bharat Sanchar Nigam Limited (BSNL). The Economic Times quotes an Aircel representative as saying: 'This is [the] first agreement between a state owned operator and a private telecom player. With this strategic tie up, both organizations will be able to enhance customer experience besides utilizing



each other's assets and network strength.' Local press sources have claimed that BSNL is poised to sign additional ICR agreements with rival operators Vodafone and Reliance Jio in the coming months. According to TeleGeography's GlobalComms Database, BSNL's 2G footprint covers 20 of India's 22 circles (all except Delhi and Mumbai). The network currently comprises 114,000 cell towers, a figure which is set to rise to 135,000 following the next phase of the telco's rollout program.

## Gulf Operators Cut Roaming Rates

The UAE's telecoms regulator has ordered the country's two mobile network operators to cut the cost of roaming overseas within the Gulf Cooperation Council (GCC) countries. The GCC is made up of Saudi Arabia, Kuwait, the United Arab Emirates, Qatar, Bahrain, and Oman. In average, the roaming prices for UAE customers who travel to GCC countries should fall by an average of 42% starting from April 1, 2016. Commenting on this move, H.E. Hamad Obaid Al Mansoori, the UAE TRA's Director General stated: "The TRA was actively represented in the Roaming Working Group meetings to study the regulation of roaming prices in the GCC countries. The implementation of the price caps by all mobile operators in the GCC will represent a great achievement for GCC countries to be among the pioneers in implementing such regulations." In 2010, the GCC approved recommendations for setting a maximum cap on wholesale and retail mobile roaming tariffs within GCC member states. The Regulation

took full effect on February 1, 2012. On June 9, 2015, the GCC approved recommendations setting price caps for calls made to other GCC, calls made within the visited GCC country, calls received while roaming within the GCC, SMS sent while roaming in the GCC and mobile data usage while roaming in the GCC.

## Telcos announce new roaming rates within the GCC

Telecom operators du and etisalat will reduce its roaming rates in the Gulf Cooperation Council (GCC) states from April 1 in line with the announcement made by the GCC's Secretariat-General. The reduction will be applicable for local calls within the roaming country, incoming calls while roaming and text messages. Sources close to etisalat said that the discount on standard rates is two per cent on outgoing voice calls to the UAE or any other GCC country, five per cent on outgoing calls to the local destination,

76 per cent on outgoing SMS and up to 90 per cent on data usage for prepaid and post-paid customers. Roaming customers will only be charged Dh0.95 per minute for all local calls made within the visited GCC country, Dh0.29 for all sent SMSs while roaming, while data roaming will only cost customers Dh4.77 per MB for both prepaid and postpaid customers. The stakeholders' plan to reduce call rates for a period of three years and the data rates for five years. The new unified rates aim to simplify customers' lives and ensure a seamless experience during their travel by staying connected with their family, friends and business associates through their original numbers without the need to purchase a new SIM from each destination within the GCC. "As a telecommunications provider, it is our responsibility to create social and financial ecosystems that truly benefit our valued customers, and add life to their day to day communication needs. This announcement is a step that will enrich the bond between all GCC countries by boosting tourism and business in parallel," Fahad Al Hassawi, chief commercial officer at du, said in a statement. The roaming rates within the GCC are slightly higher when compared to other countries but the main issue is the data services. "Rates for data services are extremely high when compared to other countries," Sukhdev Singh, vice-president at market research and analysis services provider AMRB, told Gulf News. "It is a positive move and will smoothen the businesses but I don't think it is going to drastically change business dynamics," he said. The move is expected to save \$1.13 billion (Dh4.15 billion) for mobile users inside the GCC countries in the first phase.





## Umniah and Huawei International Company Join Forces to Launch a New Application for Games on Android Mobiles

Umniah, the fastest growing mobile service provider in Jordan, announced in April the signing of a partnership and cooperation agreement with Huawei, a leading global information and communications technology (ICT) solutions provider. Through this agreement, the companies will jointly launch the country's first electronic games portal. Created exclusively for Android smartphones, the portal will be a free application that will offer Umniah customers access to hundreds of electronic games and other exciting offerings. This partnership effectively makes Umniah the first telecommunications network operator in Jordan to offer an international repertoire of games to serve the local market.

In accordance with the agreement, Huawei designed and developed the application, which is now available to all Umniah customers at [game.umniah.com](http://game.umniah.com). All subscribers can now upload

the application free of charge, and start exploring and enjoying the hundreds of games on offer. Furthermore, downloading the application automatically qualifies the user to join Umniah's VIP Club, which offers a free trial period on paid games and the chance to win gifts and free downloads in addition to various other perks and benefits.

The launch of this application further strengthens Umniah's existing partnership with Huawei International, and coincides with the unveiling of its 4G network, which provides super high speed mobile Internet perfectly suited to needs of the entertainment and electronic games industries.

At the launch, VAS and Mobile Financial Services Manager at Umniah, Mohamad Beides said, "Umniah's partnership with Huawei reflects our commitment to offer the latest and most up-to-date services for the local market, making it the ideal



Umniah Team



fit for all subscribers, including the entertainment and electronic gaming sectors, which make up a substantial segment of the youth category.” He added that the company’s new 4G network, which boasts enormous capabilities, is perfectly placed to offer the highest quality of Internet-based services.

The partnership with Huawei International, which teamed up with Umniah to build its modern telecommunications network throughout Jordan, presents a unique opportunity for both companies and enables them to extend the best services to the Jordanian market.

The launch of this application, Beides went on to add, stands witness to Umniah’s commitment to offer high speed Internet to its Android subscribers, who make up the highest ratio of smartphones used in all telecommunication markets around the globe, including Jordan.

From his side, Director of Sales at Huawei, Chris Zhangbinbin said: “Today, in the era of digital economy, the traditional business operation mode of operators experienced huge impact from the Internet business, consumer’s behavior and experience is undergoing tremendous changes.”

With that in mind, Huawei is walking on the road to help Umniah in transition from CSP (Communication Service Provider) to DSP (Digital Service Provider). Umniah Mobile Gaming as innovative solution is a step forward in the journey of Digital Transformation, he added.

Last month, Umniah launched its 4G services through two networks for the first time in Jordan, under the name evo 4G, which provide high speed Internet and other additional services. This latest step by Umniah is an acknowledgement of the fact that technology has become an integral contributor to economic development and job creation for youth, and that the electronic gaming industry racked up revenues in 2015 of over \$100 billion, \$30 billion of which were from the upload of mobile games.



## ▼ TECHNOLOGY NEWS

### TECHNOLOGY UPDATES

#### Turk Telekom, Nokia ink 5G, IoT MoU

Turk Telekom (TT) and Finland's Nokia have signed a Memorandum of Understanding (MoU) to accelerate the development of 5G radio access network technology and the applications that will drive the Internet of Things (IoT). According to a press release from Nokia, TT will make its network infrastructure available to the vendor for real-time testing, and the companies will work together on trialing 5G and IoT technologies for tracking, metering, smart cities, smart home and latency-sensitive applications. They will then use their findings to develop 5G-ready solutions that will allow TT to evolve its network and be ready for the eventual introduction of commercial 5G services. The MoU will see the companies focusing on the development of cloud architecture for radio and core network technology that can support Network Slicing in particular. Nokia notes that with Network Slicing, a 5G network can be tailored to the diverse needs of different industries, enabling the large-scale transformation of sectors such as healthcare, security, automotive, public safety, industrial manufacturing, smart cities and more. Ernst Nassl, Head of Region Turkey and Central Asia at Nokia, commented: 'Our work with customers on 5G is crucial in allowing us to better

understand real network use-cases for this technology and to accelerate commercial use.'

#### Wi-Fi Capacity Doubled at Less Than Half the Size

Last year, Columbia Engineering researchers were the first to invent a technology full duplex radio integrated circuits (ICs) that can be implemented in nanoscale CMOS to enable simultaneous transmission and reception at the same frequency in a wireless radio. That system required two antennas, one for the transmitter and one for the receiver. And now the team, led by Electrical Engineering Associate Professor Harish Krishnaswamy, has developed a breakthrough technology that needs only one antenna, thus enabling an even smaller overall system. This is the first time researchers have integrated a non-reciprocal circulator and a full duplex radio on a nanoscale silicon chip. "This technology could revolutionize the field of telecommunications," says Krishnaswamy, director of the Columbia High-Speed and Mm-wave IC (CoSMIC) Lab. "Our circulator is the first to be put on a silicon chip, and we get literally orders of magnitude better performance than prior work. Full-duplex communications, where the transmitter and the receiver operate at the same

time and at the same frequency, has become a critical research area and now we've shown that WiFi capacity can be doubled on a nanoscale silicon chip with a single antenna. This has enormous implications for devices like smartphones and tablets." Krishnaswamy's group has been working on silicon radio chips for full duplex communications for several years and became particularly interested in the role of the circulator, a component that enables full-duplex communications where the transmitter and the receiver share the same antenna. In order to do this, the circulator has to "break" Lorentz Reciprocity, a fundamental physical characteristic of most electronic structures that requires electromagnetic waves travel in the same manner in forward and reverse directions. "Reciprocal circuits and systems are quite restrictive because you can't control the signal freely," says PhD student Negar Reiskarimian, who developed the circulator and is lead author of the Nature Communications paper. "We wanted to create a simple and efficient way, using conventional materials, to break Lorentz Reciprocity and build a low-cost nanoscale circulator that would fit on a chip. This could open up the door to all kinds of exciting new applications." The traditional way of breaking Lorentz Reciprocity and building radio-frequency circulators has been to use magnetic materials such as ferrites, which lose reciprocity when an external magnetic field is applied. But these materials are not compatible with silicon chip technology, and ferrite circulators are bulky and expensive. Krishnaswamy and his team were able to design a highly miniaturized circulator that uses switches to rotate the signal across a set of capacitors to emulate the non-reciprocal "twist" of the signal that is seen in ferrite materials. Aside from the circulator, they also built a prototype of their full-duplex system--a silicon IC that included both their circulator and an echo-cancelling receiver--and demonstrated its capability at the 2016 IEEE International Solid-State Circuits Conference this past February. "Being able to put the circulator on the same chip as the rest of the radio has the potential to significantly reduce the size of the system, enhance its performance, and introduce new functionalities critical to full duplex," says PhD student Jin Zhou, who

integrated the circulator with the full-duplex receiver that featured additional echo cancellation. Non-reciprocal circuits and components have applications in many different scenarios, from radio-frequency full-duplex communications and radar to building isolators that prevent high-power transmitters from being damaged by back-reflections from the antenna. The ability to break reciprocity also opens up new possibilities in radio-frequency signal processing that are yet to be discovered. Full-duplex communications is of particular interest to researchers because of its potential to double network capacity, compared to half-duplex communications that current cell phones and WiFi radios use. The Krishnaswamy group is already working on further improving the performance of their circulator, and exploring "beyond-circulator" applications of non-reciprocity. "What really excites me about this research is that we were able to make a contribution at a theoretically fundamental level, which led to the publication in Nature Communications, and also able to demonstrate a practical RF circulator integrated with a full-duplex receiver that exhibited a factor of nearly a billion in echo cancellation, making it the first practical full-duplex receiver chip and which led to the publication in the 2016 IEEE ISSCC," Krishnaswamy adds. "It is rare for a single piece of research, or even a research group, to bridge fundamental theoretical contributions with implementations of practical relevance. It is extremely rewarding to supervise graduate students who were able to do that!"

## Russian Scientists Develop Long-range Secure Quantum Communication System

A group of scientists from ITMO University in Saint Petersburg, Russia has developed a novel approach to the construction of quantum communication systems for secure data exchange. The experimental device based on the results of the research is capable of transmitting single photon quantum signals across distances of 250 kilometers or more, which is on par with other cutting edge analogues. The research paper was published in the Optics Express

journal. Information security is becoming more and more of a critical issue not only for large companies, banks and defense enterprises, but even for small businesses and individual users. However, the data encryption algorithms we currently use for protecting our data are imperfect - in the long-term, their logic can be cracked. Regardless of how complex and intricate the algorithm is, getting round it is just the matter of time. Contrary to algorithm-based encryption, systems that protect information by making use of the fundamental laws of quantum physics, can make data transmission completely immune to hacker attacks in the future. Information in a quantum channel is carried by single photons that change irreversibly once an eavesdropper attempts to intercept them. Therefore, the legitimate users will instantly know about any kind of intervention. Researchers from the Quantum Information Centre of the International Institute of Photonics and Optical Information Technology at ITMO University along with colleagues from Heriot-Watt University in Edinburgh have devised a new way to effectively generate and distribute quantum bits. This is the first system in Russia, which can compete with the best existing analogues and makes it possible to share quantum signals via optical fiber across 250 kilometers in distance. "To transmit quantum signals, we use the so-called side frequencies," says Artur Gleim, head of the Quantum Information Centre at ITMO University, "This unique approach gives us a number of advantages, such as considerable simplification of the device architecture and large pass-through capacity of the quantum channel. In terms of bit rate and operating distance our system is comparable to absolute champions in the field of quantum communications." The very possibility of stable transmission of quantum signals through fiber optical channels is instrumental to subsequent integration of quantum key distribution systems that will be used to secure the useful data. According to Robert Collins, research associate at the Institute of Photonics and Quantum Sciences at Heriot-Watt University and one of the authors of the study, the work may become a big pivot point for the whole field of quantum communication and cryptography: "Down the track, this

new approach can enable smooth coexistence of numerous data streams with different wavelengths in one single optical cable. On top of it, these quantum streams can be fed into the already existing fiber optic lines along with conventional communications." In order to encode quantum bits in the system, laser radiation is directed into a special device called the electro-optical phase modulator. Inside the modulator the central carrier wave emitted by the laser is split into several independent waves. After the signal is transmitted through the cable, the same splitting occurs on the receiver end. Depending on the relative phase shift of the waves generated by the sender and the receiver, the waves will either enhance or cancel each other. This pattern generated by overlapping wave phases is then converted into the combination of binary digits, 1 and 0, which serves to compile a quantum key. Importantly, the scientists have achieved high stability of the relative phase shifts of the signal in the system. "All waves undergo random changes while passing through the fiber," explains Oleg Bannik, one of the authors of the study and researcher at Quantum Information Centre, "But these changes are always identical and get smoothed over during the additional run through the receiver's modulator. In the end, the receiver observes the same combination as the sender." Now the researchers are on the mission to create a full-fledged quantum cryptographic system, which will generate and distribute quantum keys and transmit useful data simultaneously.

### 3G's days are numbered once IoT takes off

2G networks expected to outlast 3G in Europe thanks to demand for voice roaming, low-bandwidth services. 3G could be consigned to history in Europe over the next decade, as operators come to rely increasingly on evolved 4G, and even 2G networks, for voice, data, and Internet of Things (IoT) services. "There is still a place for 3G... [but] its role will diminish over time," said Guy Summers, head of machine-to-machine (M2M) connectivity at Telefonica Digital, during a panel session at Smart IoT London. He said that approximately 70% of the Spanish incumbent's cellular M2M connections are still carried by its 2G network, due to the huge demand for

low-bandwidth, low-cost connectivity. Meanwhile, going forward, 4G has the capacity to underpin bandwidth-hungry IoT services and is evolving to also provide narrowband IoT connectivity. The 3GPP began work on the feasibility of using LTE to support IoT services in Release 12. It ramped up its activities to specifically include low-bandwidth, low-power LTE connectivity in Release 13, which was completed in March.

### So, where does that leave 3G?

"3G falls between two stools," said Matt Hatton, CEO of IoT analyst firm Machina Research, during the same panel session. "It is a temporary solution to a problem." Indeed, compared to 4G, 3G lacks the capacity needed to quickly transfer large volumes of data, while 2G networks are fully depreciated, potentially making them a lower-cost option for narrowband IoT compared to 3G. Having said that, Japan's mobile operators have already shut their 2G networks down completely, and the likes of AT&T in the U.S., and Telstra and Optus in Australia have announced 2G sunset plans. However, a different picture is emerging in Europe. Telenor revealed in 2015 that it plans to shut down its 3G network in Norway in 2020, followed by its 2G network in 2025. Its logic is that the 2G network will still be useful for basic M2M and voice services - particularly roaming - all the while it is expanding the coverage and capability of its 4G network. Hatton said on Tuesday that he has had similar conversations with several European operators. For Telefonica's Williams, operators will still rely on 3G for IoT connectivity in places where LTE networks have not been widely deployed, but will be gradually squeezed out "as 4G evolves into a standard that includes support for M2M."

### NB-IoT to become reality in 2016 - Huawei

Huawei claimed that NB-IoT is "not a story: it's coming, it's going to be reality this year", as it looks to drive growth of the low power IoT technology in the face of rival offerings which have already been deployed. Zhu Cheng (pictured), director of the cellular IoT product line at Huawei, suggested that by 2020 there will be three billion cellular IoT connections, driven by

applications such as smart metering and smart cities. The executive argued that rival proprietary (non-cellular) IoT technologies such as LoRa and Sigfox are likely to encounter challenges around quality of service and coverage, although they do have benefits now in terms of being first to market. These technologies have been "very, very aggressive" in the last year, but NB-IoT has advantages in terms of standardization, quality of service, security, battery life and coverage. In terms of security, "the mobile network is considered as the safest, and cellular-IoT inherits the characteristics of security from this," he said. And while the ecosystem still needs some work, "this is temporary" - once the 3GPP standardization progress advances, growth will not be a big issue, he asserted. Indeed, growth of the NB-IoT ecosystem has been a major theme here, with Patrick Zhang, president of the marketing and solutions department at Huawei, stating that "we believe we can only succeed with our partners, together. We cannot succeed alone". While Huawei has been one of the main drivers of NB-IoT, it has also seen support from chipset vendors including Qualcomm, Intel and HiSilicon; module makers such as U-blox, Telit, Sierra and Gemalto; and network rivals Ericsson and Nokia. Zhu highlighted the role of the NB-IoT Forum in acting as a bridge to industry for operators. In a keynote presentation yesterday, Eric Xu, rotating CEO of Huawei, outlined its aim with NB-IoT. "We hope the telco network will be able to carry more IoT connections," he said.

### KT, NEC confirm successful 5G backhaul solution test utilizing E-band spectrum

Japanese vendor NEC Corporation has announced the successful completion of a Proof of Concept (PoC) trial with South Korea's KT Corporation for a 5G wireless backhaul solution that utilizes E-Band spectrum (70GHz-80GHz). In a press release confirming the development it was revealed that the PoC was conducted at Phoenix Park Ski World in PyeongChang, South Korea, using KT's commercial mobile network infrastructure. KT aims to launch 5G trial services in 2018, planning to introduce radio transmission using E-Band spectrum in order to establish

mobile backhaul networks for 5G services, especially in mountainous areas where it is difficult to lay optical fibre. In this latest technology trial, the iPASOLINK EX, NEC's ultra-compact microwave communications system that operates with E-Band spectrum, was used to interconnect KT's LTE base stations with high-speed and high-capacity wireless links. According to the vendor, as iPASOLINK EX supports ultra-multilevel modulation (256QAM) technology, high capacity transmission of up to 3.2Gbps is possible, while its support of narrow band transmission (channel width of 250MHz and 500MHz) enables telecom operators to efficiently utilize frequency bands.

## Toyota to develop connected car technologies with Microsoft

Toyota has launched Toyota Connected, aimed at developing the company's capabilities in data management and data services. The new company will serve as a data science hub for Toyota's global operations and support a broad range of consumer, business and government facing initiatives. The move comes as Toyota expands its existing partnership with Microsoft to develop new connected services. Based in Plano, Texas, Toyota Connected will launch with two mandates: delivering seamless and contextual services, and using cutting-edge data analytics to support product development for customers, dealers, distributors, and partners. At the new facility, Microsoft engineers will work with Toyota Connected, leveraging a broad range of data analytics and mobile programs. Toyota Connected will adopt Microsoft's Azure cloud computing platform, employing a hybrid solution globally. The new company will be led by Toyota Motor Corporation senior managing officer Shigeki Tomoyama, with Toyota Motor North America chief information officer Zack Hicks serving as CEO. Reuters reported that Microsoft will have a 5 percent stake in Toyota Connected. Among the services to be developed or expanded under Toyota Connected are insurance coverage and rates based on owners' actual driving patterns, connected vehicle networks that can share information on traffic and weather conditions, such as icy roads, and information services tailored to a driver's habits

and preferences, including monitoring heart rate, glucose level and other personal health data.

## Huawei to Open Innovation Centre in Thailand

Huawei has selected Thailand to host its first technology and innovation centre in Southeast Asia. The company's senior vice-president Chen Lifang said that Bangkok will also serve as the global launchpad for its latest branding campaign. "Thailand has recognized the important strategic role for Huawei and is a stabilizing force in the region, thanks to its strategic location and the tech-savvy Thai consumer," Ms Chen told reporters. "Thailand, Bangkok in particular, is a sophisticated market with a high level of innovation," she added. The customer service innovation centre will be based next to Huawei's existing Thailand office in Bangkok. Huawei's operations in Southeast Asia encompass Thailand, Cambodia, Laos, Myanmar, Taiwan, Hong Kong, Macau, Bangladesh, Sri Lanka and India.

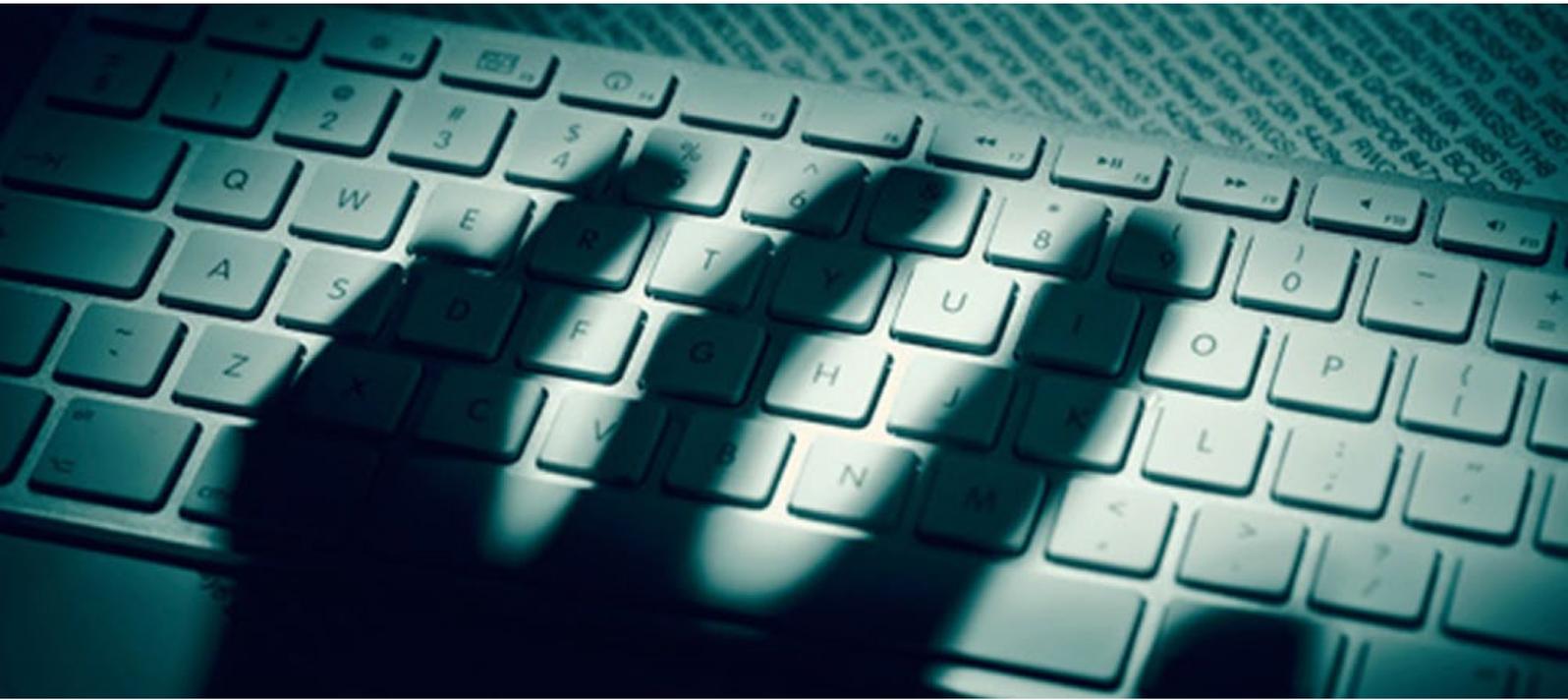
## Ericsson and Telefonica Demonstrate Live Delivery of LTE-U

Ericsson and Telefonica have demonstrated live, over the air delivery of LTE-U through Telefonica's network. The demonstration used the Ericsson RBS 6402 - an indoor pico cell solution offering three standards (LTE, WCDMA and Wi-Fi), 10 frequency bands and up to 300 Mbps LTE carrier aggregation. Ericsson is also announcing the implementation of a range of enhancements to the Ericsson Networks Software LTE-U offering. This will allow operators across the globe to leverage unlicensed 5 GHz spectrum for improved peak rates and capacity even before Rel-13 LAA becomes available, in places where national regulations allow the use pre-Rel-13 LAA standards. Eric Parsons, Head of Mobile Broadband, 4G/5G Radio Access, Ericsson, says: "With global data traffic growing exponentially, spectrum has become one of the world's most valuable resources. By enabling the use of unlicensed 5 GHz spectrum to boost peak data rates and capacity, LTE-U helps operators extract maximum value from their

spectrum investments while bringing high-quality experiences to mobile broadband users everywhere."

## OTT continues European growth

OTT video content has continued its rise throughout Europe, according to new international data from Parks Associates. 'OTT Video Market Tracker' is an annual service designed to provide industry monitoring and insights into new trends and services, tracking content and subscriber counts across the US and Europe. The research found that 55 per cent of broadband households in the UK and 51 per cent in France now view TV programming and films online. However, Europe remains some distance behind adoption rates in the US, which total 70 per cent. The number of paid subscriptions in Europe is also significantly lower than that in North America, with 30 per cent of broadband households in the UK and 17 per cent in France holding subscriptions to OTT content, in comparison with 64 per cent in the US. "OTT is definitely gaining traction across Europe. We are seeing new OTT video services spring up, but not as many as in North America," said Brett Sappington, director of research, Parks Associates. "In many parts of Europe, pay-TV penetration is lower than the US, and European consumers have been reluctant to pay for video in the past due to so many 'free' options such as the BBC iPlayer. "But, as more pay options enter the market, with content unavailable anywhere else, they are slowly changing the culture of video viewing in Europe." Spotify recently added video to its OTT music service, whilst PlayStation Vue also became available nationwide across the US this month. "Consumers are trying and subscribing to more services," Sappington added. "We saw a big increase in the number of households subscribing to multiple OTT video services in the US market at the end of 2015." "Each service is bringing new experiences for consumers, and many are providing new content that is unavailable elsewhere."



## Businesses are Swimming Against a Growing Tide of Security Threats

Businesses are struggling to shore up security defences against hackers who are becoming more skilled, persistent and agile.

Astonishingly only 45 percent of organizations worldwide are confident in their ability to defend their systems and data against sophisticated cyberattacks, according to Cisco's 2016 Annual Security report.

Cybercriminals are fast creating resilient back-end infrastructures to launch their ever-increasing attacks. Malicious browser extensions are one major source of data leakage for businesses, with Cisco estimating that 85 percent of organizations are affected by them.

Online criminals are refining complex webs for getting money out of unsuspecting victims as well as stealing data and intellectual property (IP). Security firm Kaspersky Labs estimates that over the past two years cybercriminals have managed to steal around \$1 billion

from 100 different financial institutions across the US, Russia, China, Germany and Ukraine, targeting both businesses and individual citizens. The FBI's Internet Crime Complaint Center (IC3) said that between April 2014 and June 2015, victims reported losing \$18 million to CryptoWall, a ransom Trojan.

There is a growing concern amongst senior management about the potential damage data breaches and cyberattacks can do to a business in terms of brand reputation, lawsuits and costly downtime, but still many are finding it difficult to put adequate security strategies in place.

"High-profile data breaches are a wake-up call to enterprises everywhere. However, they pose the question: Why did IT fail to stop the data breach? The answer is that it's an enterprise-wide issue, not just a technology problem," explained Larry Ponemon, chair and founder of the Ponemon Institute.



Orange Business Services – Middle East, North Africa & Turkey

## The curse of aging systems

Aging legacy systems are a major cause for concern, because they can leave businesses vulnerable to attacks. Cisco analysed 115,000 devices on the internet and discovered that 92 percent were running software with known vulnerabilities. Furthermore, 31 percent of the devices were logged as “end of sale” and 8% “end of life”.



Many organizations and financial institutions are plagued by a mix and match of older systems, often attained through mergers and acquisitions. Chinks in patchwork networks make easy entry points for cybercriminals, whether they are seeking to profit from stolen data or are so-called ‘hacktivists’ looking to make a social or political point.

Businesses are desperately trying to address security issues but are finding the challenges overwhelming – with aging infrastructures and outmoded organizational frameworks standing in the way of developing robust cybersecurity strategies.

At a time when security measures should be paramount, Cisco’s report found that SMEs have actually lowered their guard. The report found that 48 percent of SMEs said they used web security, compared to 59 percent in 2014. Such weaknesses can leave SMEs particularly vulnerable to attacks as cybercriminals will find it easier to breach these networks.

Home Depot in the US was hacked into via flaws in its password security and an unnamed third party vendor’s system. Cybercriminals got in via this back door and installed malware on sales terminals.

## IoT will reshape security

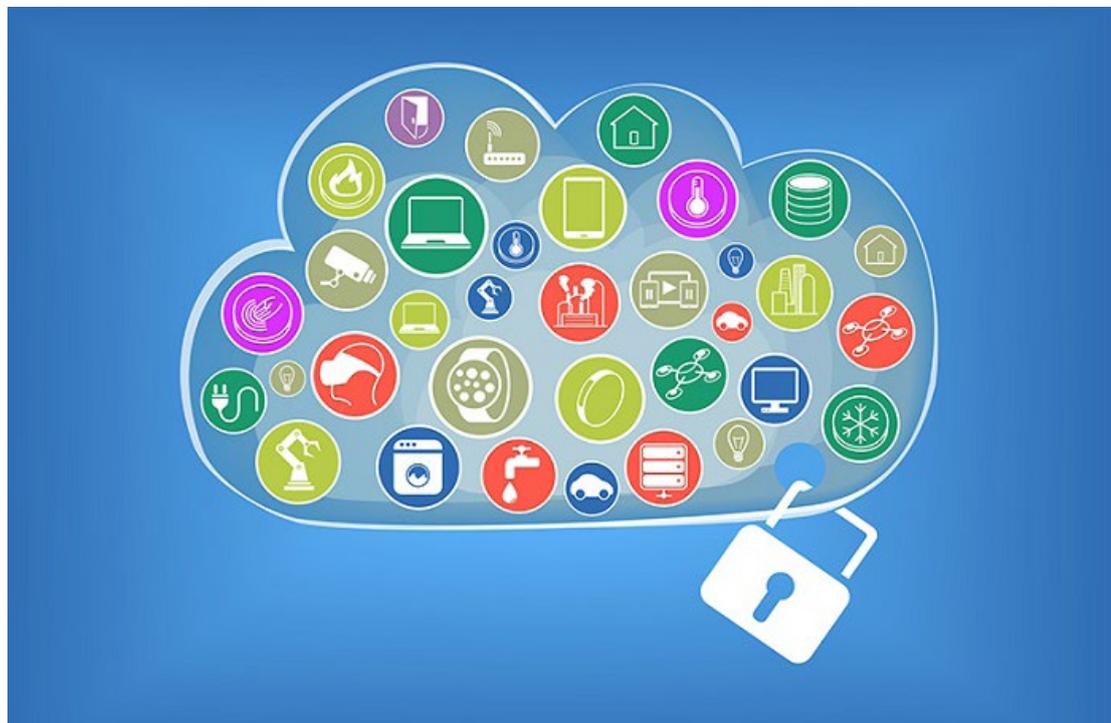
The pressure on enterprise security is only going to grow. As we enter the era of the Internet of Things (IoT) it is imperative that enterprises and their partners have a secure network infrastructure, ensuring the integrity of the data and communications that are moving around their networks.

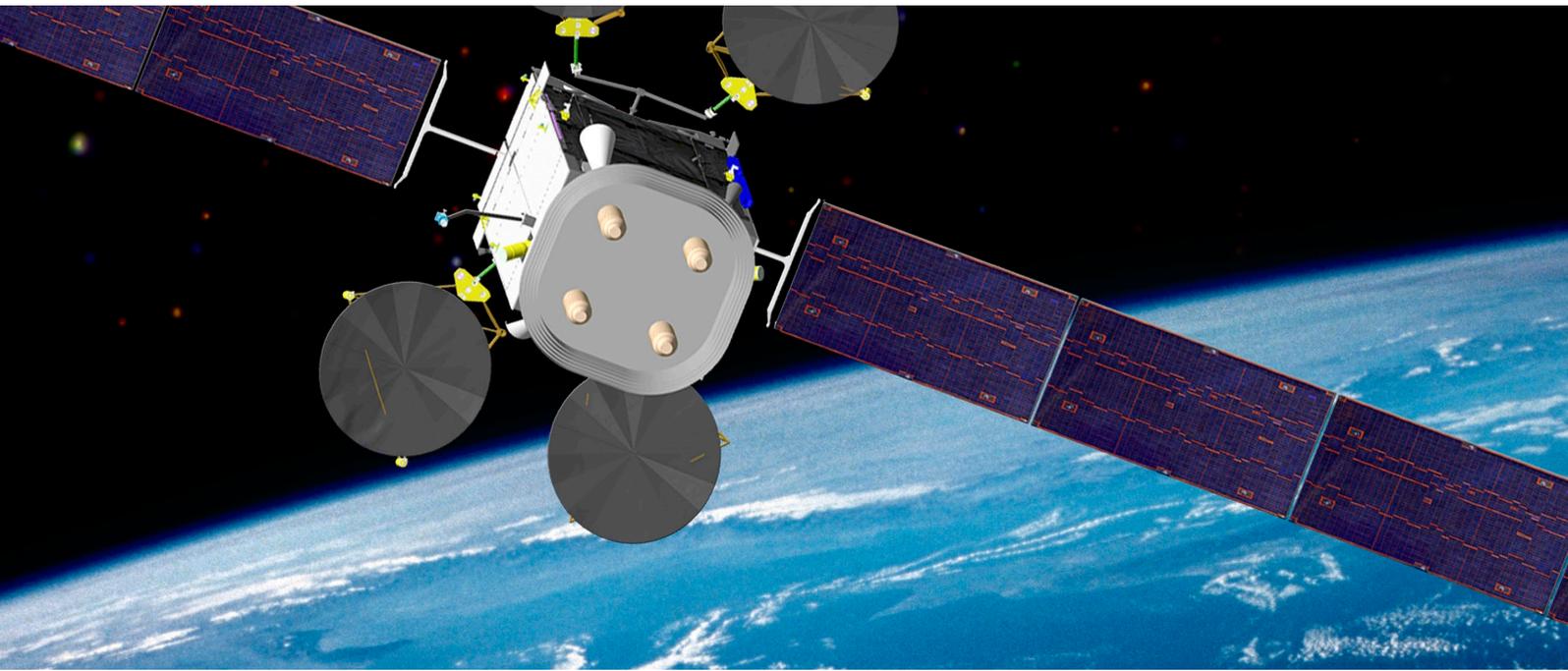
The power of connected devices within the IoT ecosystem will redefine the scope of security strategies way beyond present responsibilities, according to Gartner. “The requirements for securing the IoT will be complex, forcing Chief Information Security Officers (CISO) to use a blend of approaches from mobile and cloud architectures, combined with industrial control, automation and physical security,” explained Earl Perkins, research vice president at Gartner.

“Fortunately, many of the security requirements for the IoT will look familiar to the CISO. The technologies and services that have been used for decades to secure different eras of computing are still applicable in most cases,” he added

With the rise of IoT, now is the time for enterprises to take a really hard look at their security strategies. They must ensure they are doing everything possible to avoid security breaches, which may require investment in new IT infrastructures or security solutions.

It is worth remembering the mantra that trust in IT is hard fought, but can be very quickly lost – which is why security needs to be at the top of every enterprise agenda.





## ▼ SATELLITE NEWS

### SATELLITE UPDATES

#### Eutelsat to Power Upcoming Russian Broadband Service with Gilat Technology

Eutelsat has selected a SkyEdge 2-c hub with X-Architecture and SkyEdge 2-c small user terminals from Gilat to deliver broadband services in Western Russia. Russian Satellite Communications Company (RSCC) will host the hub at its Dubna satellite center near Moscow. The Gilat equipment will power a new range of broadband services in Western Russia. Eutelsat plans to launch new commercial services in the region in July using the new Express AMU1/Eutelsat 36C satellite. The satellite's high throughput payload comprises 18 Ka-band beams delivering continuous coverage of Western Russia, from the Arctic coastline to the Caspian Sea.

#### Cobham Satcom's Explorer 540 BGAN M2M Terminal Gains Inmarsat Type Approval

Cobham Satcom has started shipping its new Explorer 540 Broadband Global Area Network (BGAN) terminal for Machine-to-Machine (M2M) communications, following Inmarsat Class 2 Type Approval and Inmarsat

BGAN M2M certification. Explorer 540 is the first M2M communication terminal designed to operate on both Inmarsat BGAN and LTE/3G/2G cellular networks. The Explorer 540 delivers real-time M2M communication for diverse applications including IP Supervisory Control And Data Acquisition (SCADA) for data backhaul, asset tracking, real-time surveillance and remote telemetry. Securing continuity of M2M IP data transfer, which often originates in hard to reach, remote locations, dual-mode operation also delivers significant failover capabilities with automatic switching to the secondary service should the terminal detect that its primary communication service is unavailable. The Explorer 540 LTE Modem is optional and integrates into the back of the Explorer 540 BGAN M2M terminal. Cobham Satcom plans to introduce the LTE modem later this year.

#### SpeedCast, MCN Sign MOU to Create Global Maritime VSAT Service

SpeedCast International and Beijing Marine Communications and Navigation (MCN), a subsidiary of the China Transport Telecommunications & Information Centre (CTTIC), have signed a Memorandum of Understanding (MOU) through which they will form a strategic partnership for worldwide

maritime coverage. The companies plan to integrate MCN's VSAT network in the Asia Pacific with SpeedCast's global VSAT networks to provide global connectivity. This partnership is expected to provide seamless connectivity for both MCN and SpeedCast customers wherever they are, as well as to provide a wide portfolio of applications enhancing productivity, crew welfare and safety. SpeedCast will assist MCN in expanding its infrastructure to provide service coverage in the South China Sea, which will be integrated to SpeedCast's global network. MCN will also be able to leverage SpeedCast's network of field engineers located in key ports around the world. "MCN has a strong leadership position in the Chinese market and together we will be able to provide high quality broadband services to their customers globally. This partnership may also expand into other mobility markets where both companies will be able to leverage each other's strengths," said Pierre-Jean Beylier, CEO of SpeedCast.

## OTT Players Debate what it takes to be Successful

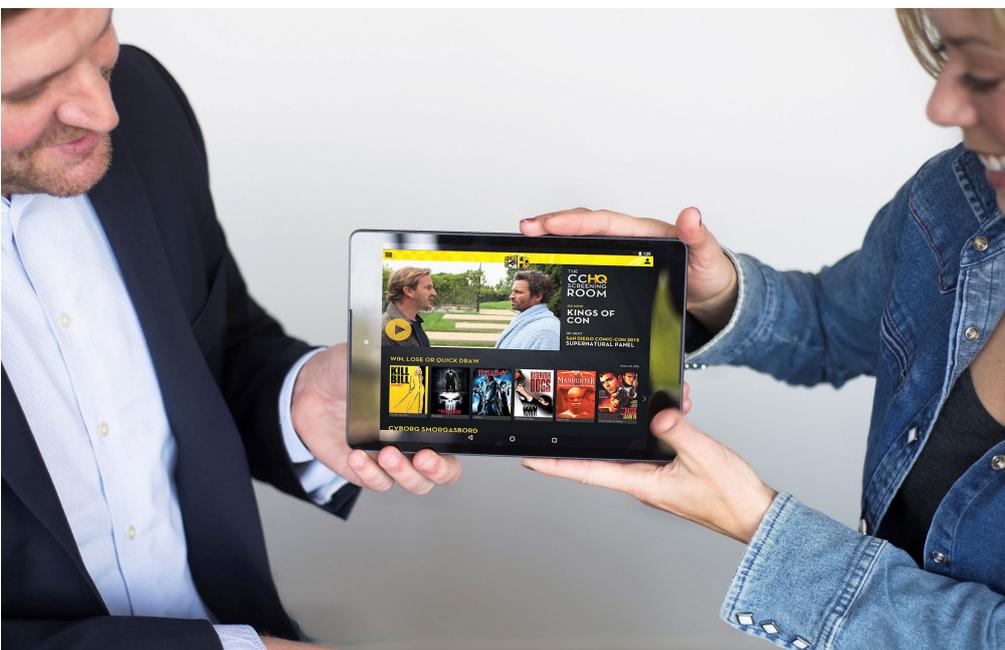
Leaders in the Over-the-Top (OTT) video market agreed at the NAB Show in Las Vegas, Nev., that though nonlinear media has exploded in popularity, making a profitable business model is still a hefty challenge. Speaking at the conference's "To Stream or Not Stream: What Content Owners Should Consider When Going OTT" on April 18, representatives from AOL, Roku,

IBM and Ellation debated what it takes to make a new OTT service successful. Internet-enabled distribution methods have opened the doors for content providers to reach audiences without necessitating the use of satellite or cable, effectively lowering this barrier to entry. The introduction and success of OTT platforms like Netflix, Hulu, Amazon, YouTube and an ever-growing number of others, has spurred on even greater interest in new business models. Panelists cautioned, however, that getting into the OTT business requires careful planning. "We see a lot of services, at least at this moment, that are launching and then are 'floating out in the ocean,' and don't know what they need to do to acquire, engage and retain customers," said Arlen Marmel, VP of marketing and distribution at Ellation. I think it is really an end-to-end experience. If you look at the traditional value chain, you need all the capabilities of product, technology, marketing, distribution and of course content programming. I think there are a lot of key pieces that go into it." Ellation counts AT&T and the Chernin Group as investors, and owns the popular Anime streaming service Crunchyroll. Marmel listed having the right technology, means of discovery, personalization and recommendation engines as some of the top requisites for having a successful OTT service today. "What we're seeing is the need to have a strong platform that is as competitive as you can be with Netflix, which is very hard to do if you are building things in house," added Braxton Jarratt, general manager of

IBM's Cloud Video Services Unit and CEO of Clearleap. IBM is supporting customers such as HBO, Lionsgate and Comic-Con on video streaming services. Jarratt said consumers expect to access OTT content everywhere, including newer devices such as Sony's PS4 and Microsoft's Xbox One, and that they expect to access it anywhere geographically. Panelists were circumspect of whether or not established broadcasters could make the jump to OTT. That does not mean, however, that new content owners are not looking to satellite and cable as effective means of distribution. Marmel said content owners are pursuing all kinds of ways to monetize valuable assets, including diverse means of sending content. Perhaps unexpectedly, the explosion in OTT popularity has not correlated directly to a decline in viewers watching content on televisions as opposed to other devices. Ferrone cited a Hulu study that found PC viewers are shifting over to using televisions for streaming, making TV-connected streaming devices more popular. As media companies determine if and how to go OTT, David Simon, VP of inventory acquisition at AOL, encouraged them to experiment and trial new methods aggressively. He said AOL has done this by pushing out original content with third party OTT services, trying new concepts with mobile content and bringing in licensed content from other companies. The goal, he said, is to understand why failures happen and to learn from them very quickly.

## Manx Telecom and Globalstar partner to develop integrated cellular and mobile satellite service

Manx Telecom has announced an alliance with Globalstar Europe to develop EMN, a new multiple technology system that it hopes will be 'the world's first communications service to switch between multiple cellular networks and a direct-to-user (DtU) mobile satellite network.' A press release confirming the development noted that, using Globalstar's Low-Earth Orbit satellite constellation, EMN is intended to be a 'bring your own device' solution that will enable users to communicate as normal with their existing devices, but with ubiquitous nationwide coverage via



satellite operations. With the service utilizing Manx Telecom's Smart SIM technology, it has been claimed that when a user's signal level begins to weaken due to the limited reach of a carrier's coverage or disappears due to a natural or man-made disaster, connectivity will be automatically handed over to another mobile network within range. If a terrestrial network is not available, network connectivity would then be transferred onto Globalstar's system. One of the first services to be developed by the new alliance, and supported by specialist technical consultancy firm Intelcomm, is FRAN, which the firms involved claim will enable all first responders to continue making and receiving calls in the event that cellular networks become unavailable. Pointing to the fact that previous attempts to achieve this have included using satellites as 'backhaul' to deliver signals to terrestrial masts, they highlighted the fact that as EMN's DtU approach connects users directly via satellite, this means it is not dependent on the reach and integrity of terrestrial infrastructure. Manx Telecom and Globalstar are reportedly targeting a trial service of FRAN this summer 'involving parties from the emergency services community'. Commenting on the matter, Jay Monroe, chairman and CEO of Globalstar, was cited as saying: 'The EMN solution, incorporating our reliable satellite network, will help ensure that first responders can continuously communicate and help them perform their significant roles more effectively.' Gary Lamb, CEO of Manx Telecom, added: 'Together with our partners, we intend to show that satellite communications, combined with Manx Telecom's flexible Strongest Signal SIM technology, can provide much-needed balance and backup to the emergency communications architecture and dramatically increase overall reliability.'

## du wins best Satellite Services Innovation of the Year Award

du has been awarded the best Satellite Services Innovation of the Year award at the 12th annual Digital Studio Awards held recently at Conrad Dubai. Last year, the UAE telecommunications company integrated its Broadcast and Telecom assets to create a world-class media platform and support the

growth of the industry throughout the Middle East. du's media platform enables seamless content distribution over satellite through its Samacom Teleport, and Over The Top (OTT) through the datamena ICT hub. For the first time, Broadcasters can manage all of their distribution from one platform in the region, which simplifies the operation and increases their control over their content. The platform has established itself as a hub for content distribution in the region as it empowers various members of the Media ecosystem - including broadcasters, telecom and cloud service providers, as well as content owners and vendors - to meet, connect and exchange services amongst one another. "At du we are actively diversifying our business by pursuing new revenue streams for the benefit of entire communities. We are providing a simple solution for our customers to reach their end-customers. By focusing on the customer rather than on the technology, we are evolving our own business model and ultimately innovating the experience for our customers. This win is testament to the fact that we are getting it right, and we will continue to pursue the path to excellence in the future," said Abou Moustafa - Vice President Enterprise Managed Services & datamena. The Digital Studio Awards bring industry professionals together and showcase industry excellence for the TV, film and broadcast production sectors in the Middle East. This year's edition attracted over 300 senior figures from the region's studios, broadcasters, pre-production and post-production facilities. du was previously awarded the Satellite Services Provider of the Year for 2013 and 2014.

## Alpha Satcom Selects Walton De-Ice for Earth Station Weather Protection

Alpha Satcom Inc. (ASI), a provider of satellite ESA solutions, has selected Walton De-Ice, a designer and manufacturer of satellite Earth Station Antenna (ESA) weather protection solutions, for an installation at a major satellite broadcast facility. ASI is designing, fabricating and supplying a 9-meter, Ku-band, low Passive Intermodulation (PIM) antenna with especially challenging RF and structural design requirements for a customer.

PIM on antennas can disrupt networks by creating signal interference. Low-PIM antennas minimize this effect. Walton Hot Air De-Ice systems heat the entire antenna reflector uniformly, which minimizes reflector distortion that can cause signal problems, even more so at Ku-, and Ka-band. "The very nature of this type of system not only requires special RF and structural design but also extremely sensitive installation and operational constraints," said Bill Anton, president and CEO ASI. "By thermally bathing the backup structure and panels in a homogeneous manner, the Walton De-icing will help support Low PIM operation for many years."

## GPS OCX Passes First Qualification Test

Raytheon, prime contractor for the U.S. Air Force's Global Positioning System Next Generation Operational Control System (GPS OCX) announced April 12 that the ground segment system passed the first formal qualification test milestone on March 4. Working with the Air Force, Raytheon completed the Configuration Item Qualification Test (CIQT) milestone for the Launch and Checkout System (LCS), which provides launch and early orbit checkout capabilities for the modernized GPS 3 satellites and implements 77 percent of the cybersecurity capabilities for the overall OCX program. Raytheon and the Air Force conducted the testing in a representative operational environment with a government-provided GPS 3 satellite simulator. GPS OCX is one of the Air Force's most troubled programs and has been the subject of public criticism by Department of Defense (DOD) leadership. According to the Pentagon's Selected Acquisition Report, OCX costs rose \$586 million, or 16 percent in 2015, mainly due to cost overruns. "The completion of this test milestone validates the maturity of the OCX launch and checkout system," said Bill Sullivan, GPS OCX program director for Raytheon. "As a result of strong collaboration with the Air Force, we were able to demonstrate the system's performance and increase confidence in the program's path ahead." The next major milestone is GPS OCX's Factory Qualification Test (FQT), which will be at the integrated system level and is scheduled to occur this summer.

## Satellite Internet Connects Three UK Villages for Government Pilot Program

London-based Internet Service Provider (ISP) Satellite Internet has connected the third and final village selected to take part in a U.K. government-funded Market Test Pilot (MTP). The company established high-speed satellite connectivity at Broomfield in North Somerset, following deployments in Luxborough and Simonsbath, also in Somerset, last year. Working closely with Connecting Devon & Somerset (CDS), Broomfield Parish Council and the wider community, Satellite Internet provided 24 properties with broadband connectivity speeds of up to 25Mbps within seven weeks. Previously, these properties had broadband speeds below 2Mbps. The MTP project is part of a wider government program involving six other deployments across the U.K. in order to assess which technologies and commercial models are best suited to deliver superfast broadband to the hardest-to-reach areas. Satellite Internet's project uses a Satellite Distribution Node (SDN) and a Wi-Fi head-end installed at a central location. The broadband connection is then supplied to end-users via a Fixed Access Wireless (FAW) network, while properties unreachable by wireless have an individual Direct-to-Home (DTH) dish installed. Households that signed up to the trial received substantially increased broadband speeds, leading, so far, to more than 60 percent of residents retaining the service on a normal commercial basis following the end of the trial period, according to Satellite Internet. The program is based on SES Techcom's Astra Connect For Communities model.

## Wolfspeed GaN RF Devices Achieve NASA Standards for Satellite and Space Systems

Wolfspeed, a Cree company, has completed testing of its Gallium Nitride on Silicon Carbide (GaN-on-SiC) Radio Frequency (RF) power transistors to demonstrate compliance with NASA reliability standards for satellite and space systems. With partner KCB Solutions, Wolfspeed conducted a

comprehensive testing program to demonstrate that the devices meet NASA EEE-INST-002 Level 1 reliability and performance standards, derived from the MIL-STD requirements for Class S and Class K qualifications. KCB Solutions conducted five test procedures on Wolfspeed's 25W GaN-on-SiC HEMTCGH40025F and their 25W 2-Stage X-band GaN Monolithic Microwave Integrated Circuits (MMIC) CMPA801B025F devices, which Wolfspeed manufactures using its 0.4µm G28V3 fabrication process. Both devices demonstrated no significant RF performance change after undergoing all the test procedures, including exposure to a cumulative dose of radiation exceeding 1Mrad, according to the company. "This successful testing demonstrates that Wolfspeed's GaN foundry process is capable of producing devices that meet these demanding reliability standards. Our customers now have the ability to specify our GaN RF devices in the most critical aerospace, military, and satellite electronics systems," said Jim Milligan, RF and microwave director, Wolfspeed. "Our proven GaN-on-SiC technology enables design engineers to make smaller, lighter, more efficient, and more reliable solid-state power amplifiers than are possible with conventional Traveling Wave Tube Amplifiers (TWTAs) or those designed with Gallium Arsenide (GaAs) devices."

## Swedish Space Corporation Launches SmallSat Ground Segment Solution

Swedish Space Corporation (SSC) has unveiled SSC Infinity, the company's new ground operations service designed for small satellites and constellations. SSC Infinity consists of a range of highly automated services that use full-motion antennas in the 5-meter or smaller class. The antennas are optimized for communication with small satellites and constellations, and can be augmented with larger antennas when needed. SSC Infinity uses a network of global ground stations to enable frequent satellite contacts for Telemetry, Tracking and Command (TT&C) and data download with low-latency data recovery. To support CubeSats, SSC Infinity makes use of normal configurations and standardized ground system

hardware. The service limits the number of mission configurations and uses pre-qualified radios to eliminate most costs associated with pre-mission configuration. SSC Infinity also comes with a Web-based customer interface for pass scheduling, and SSC technical operations staff are available 24/7 to augment mission operations during critical maneuvers. SSC Infinity includes streamlined service level agreements that come with standard terms and conditions and numerous pricing plans based on priority, antenna size, availability and bandwidth usage. Adjustable service and priority levels minimize the cost of services, according to the company.

## Zetta Jet Equips with Rockwell Collins for Ka and Ku IFC

Private aviation company Zetta Jet will enable In-Flight Connectivity (IFC) through ViaSat Yonder over Ku-band and Inmarsat Jet ConneX (JX) over Ka-band with Rockwell Collins' ARINCDirect. Zetta Jet claims to be the first business jet provider in Asia to offer high-speed connectivity across its fleet of aircraft. The new contract expands Zetta Jet's relationship with Rockwell Collins, which is currently using a number of ARINCDirect's integrated services. The system will enable flight planning, flight operations scheduling and cabin connectivity for Zetta Jet.

## Central American Association for Aeronautics and Space Crowdsourcing First Satellite Project

The Central American Association for Aeronautics and Space (ACAE) is crowdsourcing \$75,000 to complete what it hopes will be the first privately funded satellite built in Central America. The spacecraft, a 1U CubeSat called Irazu, is the flagship project of the Costa Rica-based organization, and is designed to bolster environmental monitoring in the region. ACAE is intentionally funding the Irazu satellite, which has a total program cost of \$500,000, through private means. Carlos Alvarado, president of ACAE, told Via Satellite that the organization chose to crowdsource in order to include the public and cultivate interest in the satellite industry across Central America. "We

think this is a very powerful message for the community," he said. "This is not a project that is funded by the government; this is a project that is funded by the people. We decided to establish a goal of \$75,000 funded by the people. So far, [as of] yesterday, the campaign reached \$48,000. We have six days left for finishing the campaign and we are sure we will finish the goal." Founded in 2009, ACAE works with public and private entities to promote aerospace developments in Central America. So far the organization has conducted projects such as launching stratospheric balloons and worked with companies like Ad Astra Rocket Company, the owner of which is of Costa Rican and American descent with a background as a NASA astronaut. The goal of the Irazu project is to demonstrate how space technology can benefit people's lives in the region. Marco Gomez, Irazu project director at ACAE, told Via Satellite that the CubeSat will act as a communications platform for a network of ground-based sensors used to measure forest biomass. He said ACAE formed the Irazu mission to support the Costa Rica Institute of Technology's (TEC's) climate change research. Much of the school's studies consist of placing sensors in remote ecosystems of the country to collect data on tree growth, soil moisture, precipitation and other measurements. "The researchers leave the sensors in the forest and check on them every three months to collect the data. Sometimes the sensors are damaged or stolen, resulting in loss of data and equipment. The Irazu project wants to solve this problem by using a satellite to transmit the data daily to TEC. The important thing to understand about this project is that it is a technology demonstration, meaning that we want to show that the system works and then apply it on a bigger scale. In the future, we would like to have sensors not only all around Costa Rica, but around Central America," he said. For Irazu communications, ACAE has a remote station located in Los Chiles de Alajuela, in northern Costa Rica, and a ground station is located in the TEC campus in Cartago. Gomez said the Radio Club of Costa Rica (RCCR), a non-profit, is assuming responsibility for the technical aspects of the ground stations such as design, construction and testing. Alvarado said TEC staff will process data collected from the

CubeSat, and will share it online through a special website for the public, students and researchers. ACAE is also collaborating with Costa Rica's Ministry of Science, Technology and Telecommunications, and Ministry of Environment and Energy to make the best use of the scientific data corralled from Irazu. Measuring forest health could, Alvarado said, help Costa Rica reach its national goal of becoming the first carbon-neutral country by 2021. "The objective of this measurement is that if you have the forest biomass over a period of time, you can correlate this information to CO2 quantities. This is very important because scientists and decision makers need to know how much CO2 is now being sequestered by the forest plantations that are funded by the government," he explained.

### Intelsat Announces Five-Year In-Orbit Servicing Agreement with Orbital ATK

Intelsat and Orbital ATK have announced a new satellite life extension service agreement where Orbital ATK will extend the life of an Intelsat satellite by five years using the company's Mission Extension Vehicle (MEV). Orbital ATK will manufacture, test and launch the first Mission Extension Vehicle, MEV 1, based on the GEOStar platform, and will conduct in-orbit testing to validate the spacecraft. Launch is currently slated for 2018, with mission extension service for Intelsat beginning in 2019. "Given the size of our satellite fleet, any technology that enhances our in-orbit flexibility allows us to be more responsive to our customers, such as extending the life of a healthy satellite so that it can be deployed for a late-breaking opportunity at another orbital location or maintaining service continuity before the arrival of new technology. We have actively supported in-orbit servicing from its inception, and are proud to pioneer with Orbital ATK on this game-changing innovation," said Stephen Spengler, CEO of Intelsat. Controlled by Orbital ATK's satellite operations team, the MEV 1 uses a reliable, low-risk docking system that attaches to existing features on a customer's satellite. MEV 1 provides life-extending services by taking over the propulsion and attitude control functions. The vehicle has a 15-year

design life with the ability to perform numerous dockings and undockings during its life span. "There is a vital need to service fully functional but aging satellites in both commercial and government markets. Backed by our continued investment, today's announcement signals that we are just getting started in expanding our Commercial Servicing Vehicle (CSV) fleet to provide a diverse array of in-space services in the future," said David Thompson, Orbital ATK's president and CEO. Orbital ATK's vision is to establish a fleet of servicing vehicles that can address the diverse servicing needs of geosynchronous satellites as well as perform other services such as repair and assembly. Complementing the inaugural contract, Intelsat will also have the option to service multiple satellites using the same MEV.

### Boeing Finishes Final TDRS Satellite for NASA

Boeing has completed, and delivered to storage, the last in a series of communications satellites for NASA's Tracking and Data Relay Satellite (TDRS) constellation. TDRS M is the sixth Boeing-built satellite for the NASA network providing high-bandwidth communications to spacecraft in Low Earth Orbit (LEO). Programs using the system include those supporting human space flight, the International Space Station (ISS), the Hubble Space Telescope, the Earth Observing System and several launch vehicles. TDRS M is part of the second block of Boeing-built TDRS spacecraft. The company delivered the first three (TDRS H, I and J) from 2000 to 2002. The first two satellites of the second block (TDRS K and L) launched in 2013 and 2014. Boeing completed this last satellite, TDRS M, ahead of the contract schedule and within budget at the end of 2015. NASA has given Boeing its formal consent to store the satellite at the company's satellite development center in El Segundo, Calif., until it is ready for deployment. TDRS M is expected to launch on a United Launch Alliance (ULA) Atlas 5 rocket in 2017. "Boeing's advanced TDRS satellites provide NASA with greater bandwidth at an affordable cost, helping them provide additional capacity for this critical communications relay network," said Dan Hart, vice president at Boeing Government Satellite Systems. "We are continuing to invest in technologies

that could enable communications for future NASA near-Earth, Moon, Mars and deep space missions."

## Ooredoo and Arabsat Sign Major Agreement on Satellite Communications

Ooredoo and Arab Satellite Communication Organization (Arabsat) have signed a major strategic partnership agreement that will see the two leading companies work together to develop new satellite services for customers. Under the terms of the agreement, Ooredoo and Arabsat will review the current satellite projects they have in progress, with a view to collaborating on technology and design, and will aim to work together on future projects to deliver cutting-edge satellite services. In particular, they will look to collaborate on new VSAT (Very Small Aperture Terminal) services, as demand rises for the innovative technology in Qatar and across the region. VSAT services, which provide Internet services via a small satellite dish, are being increasingly deployed for a wide range of applications, including point-of-sales transactions, data processing, and high speed Internet access for sites and offices in remote locations. Waleed Al-Sayed, Chief Executive Officer, Ooredoo Qatar, said: "Ooredoo continues to grow our global network of world-class partners in every area, as we look to increase the range and diversity of ICT services that we offer. As one of the world's top satellite operators, Arabsat has developed a reputation for delivering cutting-edge services, so we see strong potential to work with them to deliver robust solutions for our customers." Khalid Balkheyour, President and CEO, Arabsat, said: "We are very pleased to be working with Ooredoo to collaborate on the development of new and improved satellite services. As companies look for reliable global connectivity and connection, we see significant opportunities for Ooredoo and Arabsat to be their provider of choice." Ooredoo offers one of the most advanced portfolio of satellite services of any operator in the region, as it continues to build its position as a leading integrated ICT provider. In particular, the company has seen strong demand for advanced services in recent months such as Bandwidth

Pooling, Maritime Solutions, and Auto-Acquire Antennas to support ad-hoc remote broadband.

## UK Government Ready to Embrace Satellites Far More

Small satellites could open up new business models for governments and other interested parties. This was one of the key findings of the "Data from Satellite Constellations" panel at the Satellite Innovation Congress held in London April 7 and 8. One of the main speakers on the panel was Farhana Amin, Earth observation program lead at the U.K.'s Department for Environment, Food and Rural Affairs (DEFRA). She admitted the U.K. government is still getting to grips with what satellite technologies can offer an organization like DEFRA. "There are multiple requirements in the U.K. government which could be helped and solved using satellite or remote sensing data. It is fantastic that more people will enter in the space sector. From the public sector, we have a real dilemma. We are not experts. We need to work with data and service providers to find out what is out there, what is coming, and figure out ways of delivering better applications to help us with regulatory and monitoring requirements. The satellite industry needs to educate the public sector also," she said. Amin is hopeful that the satellite industry and the U.K. government can develop a "mutually beneficial" relationship. She said the U.K.'s Chief Scientific Advisor is keen on exploring new business models involving government and satellite. "We want to come up with new ideas where we can come up with new services and applications," she added. "We can help shape policy and guidelines for these services." While admitting that not all information can be made publicly available, Amin believes the U.K. government can help companies make the most from new constellations. Within the U.K. government, Amin said they have the need for a lot of data. She highlighted the need for real-time data when there are floods as one very practical example. The U.K. government has set-up a working group to see how best it can use satellite going forward. Amin admits the U.K. government needs to figure out the questions that it needs to ask in order to get the most out of

satellite technologies. "We are at the cusp of this exploration. We need to get our house in order in terms of identifying this capability," she said, tellingly. The theme of the panel was very much getting more capability for less. Geoff Roberts, CEO at Democra said that thanks to advances in CubeSat and micro-sat technology, the barriers to entering the satellite market "are more or less disappearing." However, he believes the industry needs to do a better job of educating the government and others about satellite's latest capabilities. "Data is the new oil," he said. "It will fund the economy in the future. There is an enormous amount of education to be done [by the satellite industry]. It seems a bit Star Trek, but it is not. Data from satellites has many uses. Everyone can benefit from it. The education piece is the thing that most needs to happen." The Space Innovation Congress also played host to a number of new companies that are looking to make an impact in the space sector. One such company is Leaf Space, which wants to simplify access to space for microsatellite operators. It is working on a next generation ground station network dedicated to nano, micro and small satellites. Giovanni Pandolfi, CTO at Leaf Space, said if the company was successful in its aims it would "reflect well on the industry" as well as lower the price of access to space a lot more going forward. With the U.K. government and others far more ready to embrace satellite capabilities, the potential rewards are clearly there.

## Thuraya Inks Maritime Support Agreement with Seven Seas Electronic

Thuraya Telecommunications Company has announced an agreement with Singapore-based Seven Seas Electronic to offer technical support to Thuraya's service partners in the Asia Pacific. The new service agreement aims to speed up response times for service partners needing vital maintenance work. At agreed rates, Thuraya's service partners can have around-the-clock access to Seven Seas' fully-trained engineers, helping avoid extensive downtime in the event of equipment problems onboard vessels. "Our maintenance partner will store spare equipment for vessels in locations that are difficult for our partners to reach. In the long-run, this

new agreement will save companies time and money as support will come from within the region," said Randy Roberts, chief innovation officer at Thuraya. The agreement comes after the launch of Atlas IP, a Thuraya maritime terminal that enables Internet access, enhanced connectivity, and high-speed onboard efficiency. According to Thuraya, the company's maritime business is experiencing substantial growth, particularly in Asia. The new maintenance service contract comes into effect following an increase in regional customers signing up with the satellite operator.

### Batelco reinforces Bahrain's ideal location for global satellite operations by joining the World Teleport Association (WTA)

Batelco, the region's prime teleport services provider, continues to provide world-class teleport services to satellite and VSAT operators, with the company's fully equipped teleport placing Bahrain on the global map of satellite operations. Through its achievements, Batelco has been welcomed by The World Teleport Association (WTA) as an Industry Patron Member. The support of Industry Patrons such as Batelco makes possible WTA's research, publishing and cooperative development programmes. Batelco also recognizes that the satellite industry is a key catalyst for the Bahraini economy, as it services a number of verticals including maritime, oil and gas, enterprise and broadcast. "It is an honor to welcome Batelco to the World Teleport Association as an Industry Patron Member," said Membership Director Randall Barney. "Patron Members are instrumental in their support of WTA's various research reports, which are beneficial to the entire WTA membership and the industry as a whole." Batelco, the Middle East's prime teleport services provider, provides world-class teleport services to satellite operators. Batelco's teleport boasts a 30,000 square metres of operational area with partners gaining access to the telecom's MPLS, SDH national, international networks and Internet uplinks. The teleport presents an optimum choice for

satellite and VSAT operators around the globe as it can run any application on any topology. Batelco's diverse and resilient facility also features seamless integration with terrestrial networks and provides full support for satellite and VSAT operators to streamline their operations efficiently. Batelco encourages these operators to diversify their service offerings, as the teleport allows them the ability to offer more services to end-users. Through this, Batelco aims to facilitate the operators' growth. Batelco Chief Global Officer Adel Al-Daylami said that Batelco is proud to be an official Industry Patron with the WTA. "This prestigious membership is testament to Batelco's reliable connectivity and bespoke solutions provided to the satellite and VSAT operators," added Mr. Al-Daylami.

### SmallSat Boom Outpacing Regulators in the US

U.S. regulators are grappling with how to ascribe the most appropriate policies for small satellites as their proliferation becomes more significant. Agency representatives and private sector executives, the latter of which have already orbited or plan to orbit hundreds of SmallSats, discussed ways to craft the best regulatory regime to preserve and protect the space environment at the Washington Space Business Roundtable in Washington, D.C April 7. Government officials admitted off the bat that they are currently playing catch-up with the commercial sector. U.S. startups, universities and other players have introduced swarms of SmallSats in Low Earth Orbit (LEO) well ahead of a fully rounded out regulatory framework for all of their operations. "From the State Department perspective, we work on a daily basis to push forward possible norms of responsible behavior in space so we can work to catch up to the present space environment," said Mallory Stewart, deputy assistant secretary for emerging security challenges and defense policy, Bureau of Arms Control, Verification & Compliance at the U.S. Department of State. George Nield, associate administrator of commercial space transportation at the Federal Aviation Administration (FAA), said the United States' current regulatory framework was not designed to handle some of

the "nontraditional" operations that have grown in popularity. Citing the 1967 Outer Space Treaty, which more than 100 countries have since ratified, Nield said signers of the treaty have agreed to authorize and supervise the activities of non-governmental entities from their countries in outer space. In the U.S., different agencies handle different aspects of this responsibility. The FAA handles launch and reentry, the Federal Communications Commission (FCC) covers radiocommunications, and NOAA addresses remote sensing. NASA and the Department of Defense (DOD) are not regulatory agencies, and Nield said neither do they want to be, but some oversight of the commercial industry has fallen on their shoulders, particularly the DOD. Through the Air Force's Joint Space Operations Center (JSpOC), much of industry receives updates about collision risks between satellites and space debris. This, however, falls outside of JSpOC's primary mission to serve U.S. military needs. Nield said the FAA is open to handling regulatory requirements for satellite operators, particularly of SmallSats, to both fill the void that no other agencies are in, and to address aspects of managing the space environment that fall outside the domain of agencies that are handling them today. "The FAA has expressed our willingness to take on responsibility for overseeing commercial activities in space that are not already regulated by the FCC or NOAA, should the White House and Congress decide that that would be appropriate," he said. "The goal would be to enable those new nontraditional operations in space without creating a huge new regulatory burden that would make U.S. companies less competitive, or in the worse case, would actually drive them off shore in search of a more business-friendly regulatory environment." Nield said there is much greater awareness of the "contested" and "congested" space environment today, but reminded that debates on some of these issues go back for several years now with limited tangible progress. In light of this, representatives of new commercial operators said they have borne the mantle of handling many of their affairs in space as their own responsibility.

## Inmarsat Forms Joint Venture with MCN to Bring Cockpit, Passenger Connectivity to China

Inmarsat has signed a Heads of Terms (HoT) agreement with Beijing Marine Communication and Navigation Company (MCN), which will lead to the creation of a joint venture to provide aircraft cabin and cockpit connectivity solutions in China's fast-growing commercial aviation market. The companies expect to sign the final agreement later this year. Inmarsat would provide its Global Xpress (GX) Aviation and SwiftBroadband-Safety (SB-S) services through the joint venture. GX Aviation, the satellite operator's broadband In-Flight Connectivity (IFC) solution, will launch this year enabling both passenger Wi-Fi and operational connectivity for aircraft that equip. Air China is set to trial GX Aviation this year. SB-S is a flight deck communication platform that combines L-band satellite connectivity with advanced avionics, enabling airlines to meet the ICAO mandate for sub-15-minute tracking of all aircraft, Civil Aviation Authority of China (CAAC)'s four-minute mandate, Automatic Dependent Surveillance-Broadcast (ADS-B) and Electronic Flight Bag (EFB) updates. "China is one of the world's fastest-growing commercial aviation markets and when the proposed joint venture with MCN is finalized, the new company would provide the country with access to the most advanced cockpit and cabin connectivity solutions available today and in the future," said Leo Mondale, president of Inmarsat Aviation.

## GEE Expands Ka-band Capabilities to Airconnect Global Antenna Platform

Global Eagle Entertainment (GEE) has released a new Airconnect Global Ka high-speed antenna that will complement its existing Ku-band antenna systems. The company developed the new antenna in partnership with Quantenelektronische Systeme (QEST) and will offer Ku- and Ka-band capability on a single antenna platform. In 2015, GEE announced the development of its Airconnect Global Ku antenna, which operates consistently at all latitudes on Ku networks. The expansion adds Ka-

band compatibility to the core antenna architecture, with target certification for Ka-band capability in early 2017. The design of the Airconnect Global Ka antenna is compatible with GEE's current installation architecture and Supplemental Type Certificates (STCs), and meets the requirements for future linefit installations, according to the company.

## Northrop Grumman Competing for Future GPS 3 Satellite Contract

A Northrop Grumman engineer working on an Advanced EHF payload. Photo: Northrop Grumman

[Via Satellite 04-06-2016] Northrop Grumman has submitted a proposal to the United States Air Force for the next-generation Global Positioning System (GPS) 3 program. The Air Force is looking to update the GPS system, which has been delivering precise global position, navigation and timing services worldwide for more than two decades. Northrop Grumman's proposal is based on a navigational payload prototype built and tested in 2015 and a heritage space vehicle, proven to operate in Medium Earth Orbit (MEO). In addition to current GPS 3 capabilities, the company's payload demonstrated enhanced transmission power for the military code, a critical capability for operating in regions of the world where jamming is prevalent. The Air Force plans to award up to three \$5 million study contracts in the third quarter of 2016, under the GPS 3 Space Vehicles 11+ Phase 1 Production Readiness Feasibility Assessment Request-for-Proposal (RFP). The study contracts will run for 26 months, with two additional six-month options, preceding a competition for 22 spacecraft anticipated in 2018.

## Airbus to Retrofit A350 Fleets with Gogo's 2Ku

Gogo has partnered with Airbus subsidiary Airbus Corporate Jet Center (ACJC) to install its satellite-based 2Ku In-Flight Connectivity (IFC) solution on a retrofit basis onboard new Airbus A350 aircraft. Previously, only first-generation gimbaled antennas have been available for the A350. Under this new agreement, airlines may elect to add Gogo's 2Ku system to the A350 on a retrofit basis with a factory-authorized

installation from ACJC. Delta Air Lines will be the first customer for such installation and expects delivery of its first 2Ku-equipped A350 in 2017. Additionally, Delta will be the first U.S. airline to launch domestic 2Ku service as its first narrow-body aircraft takes flight later this month.

## Measat Broadcasting TERN International in Ultra-HD Across Asia Pacific

Measat Satellite Systems has reached an agreement with Television Entertainment Reality Network International (TERN International) to distribute the Insight UHD channel. The operator will use the global beam on Measat 3a to deliver the channel to pay-TV operators across Asia Pacific and Australia. The Measat 3a global beam also covers the Middle East and Eastern Africa. This is the second Ultra-HD channel distributed via the 91.5 degrees east video neighborhood. Insight UHD features original Ultra-HD content co-created with production houses, ranging from entertainment to extreme sports, and from game shows to cinematography. Thema is marketing the channel in Asia.

## KSAT Signs Ground Station Agreement with EUMETSAT

Kongsberg Satellite Services (KSAT) has signed an expanded and extended agreement for ground station support for the European meteorological organization EUMETSAT. The organization is installing three new antenna systems at KSAT's Svalbard facility, which KSAT will maintain. The antennas are for the MetOp Second Generation satellites, a continuation of the existing operational weather satellite systems KSAT also supports. KSAT is beginning these services this year. According to the company, Svalbard is particularly well suited for the Ka-band systems due to the dry Arctic atmosphere. The agreement covers maintenance and site operation for as many as five antenna systems total.

# 16th Global Symposium for Regulators (GSR) Sharm el-Sheikh, Egypt 11-14 May 2016

Today, technology is increasingly recognized as a pillar of social and economic development. And the value and impact of information and communication technology (ICT) is set to grow as new technologies – including the Internet of Things (IoT), 5G-enabled technology, and artificial intelligence – are the building blocks of tomorrow's 'smart societies'. Positive development can only continue and flourish with effective regulation and attention to policy in this ever-changing ICT landscape.

Now more than ever, regulators need to come together and develop innovative solutions to leverage new opportunities. Together, regulators and all technology players have the power to drive change and deliver transformative technologies and regulatory responses that bring real change to people's lives.

ITU's flagship event – the Global Symposium for Regulators (GSR) – is the forum where regulators come together every year to discuss policy and regulatory challenges, opportunities and best practices. GSR is the world's largest neutral platform for regulators to engage with other regulators, policy makers, and business leaders. GSR 2016 will be held in Sharm el-Sheikh, Egypt, from 11 to 14 May 2016 under the theme 'be empowered, be included, building blocks for smart societies in a connected world.'



## GSR 16 BE EMPOWERED, BE INCLUDED: BUILDING BLOCKS FOR SMART SOCIETIES IN A CONNECTED WORLD

Sharm el-Sheikh, Egypt,  
11-14 May 2016

**Aim of GSR16 and beyond:** Our promise is to recognize and integrate emerging trends in regulation to maintain GSR as the unique, neutral platform for regulators to come so that they can keep a head start on regulation and create a feeding ground for collaborative regulation. We want to give our Members the tools to share their experiences and expertise, and get ahead of the curve in terms of regulation, not only in the ICT/telecommunications sector, but also in terms of how ICT/telecommunications interacts with other regulation so that we can leverage our head start on regulation in a collaborative, 4th, and even 5th generation ICT regulatory environment.

**Entering Behavior:** The evolution in the sector has brought about changes – there are new players on the market and discussions as to new and existing business models, new technologies, and new opportunities.

Regulators around the world have become more conscious of the changing ecosystem and are aware that they need to adapt to the changing environment. From a time when they were mainly focused on their creation as independent entities opening monopolistic markets, to one where they became active in promoting investment in infrastructure and services development and overseeing budding competitive markets, they now have many more issues at stake – they have become 4th Generation Regulators fostering the development of ICTs for economic and social development and increasingly interacting with other sectors.

**What is the Challenge:** Today we are seeing a new opportunity arise because of the changing landscape, where we are dealing with the Internet of Everything and yet see billions still unconnected, which also affects their ability to participate in the digital economy – socially, financially, and economically. As ICTs are recognized as the foundation

upon which the pillars of economic and social development can grow, recognition has grown that we need ecosystems that include ICT/telecommunication operators and service providers, but also health providers, educators, banks and others as partners to connect the world and create value for business. We need to work together to create an enabling regulatory environment between regulators and other stakeholders across the sectors and remove the barriers that hinder progress. We also need greater focus on standardization and interoperability between borders and also between technologies. The ability to offer secure and real time transactions on strong, resilient ICT networks is essential to build consumer trust, and this also requires a focus on protecting privacy.

Description of Sessions: We have designed GSR16 around the theme: BE EMPOWERED, BE INCLUDED: BUILDING BLOCKS FOR SMART SOCIETIES IN A CONNECTED WORLD, and have identified various tracks to allow participants to exchange on the challenges of collaborative regulation in a digital, connected, smart society. In addition, information sessions will be held during coffee and lunch breaks, including a cyber drill, and information sessions on key BDT projects, programs and initiatives.

## Program

### Wednesday 11 May 2016 PRE-EVENT DAY

09h00-12h30 Global Dialogue on Digital Financial Inclusion  
 12h30-14h00 Lunch  
 14h00-16h00 Global Dialogue on Digital Financial Inclusion  
 16h00-16h30 Coffee

16h30-18h00	Chief Regulatory Officers Meeting (CRO)	Regulatory Associations Meeting
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### Thursday 12 May 2016

09h00-10h00 Opening Ceremony  
 10h00-10h15 COFFEE BREAK/ PHOTO OPPORTUNITY  
 10h15-12h00 Leadership debate: Beyond 2020 - Challenges, Opportunities, Scenarios  
 This high-Level debate will examine

- Artificial Intelligence, smart Sensors, smart networks – where do we go from here?
- How to maintain trust in ICTs in an era of big data, Internet of everything, machine learning and smart digital environments?
- As things get smarter, will smart machines take over?
- How can consumers get smarter?
- What are the kind of policy and regulatory frameworks needed to ensure disruptive technologies bring new opportunities for all in a sustainable manner?
- Will it be business as usual?

12h00-14h00 LUNCH / PRESS CONFERENCE

### TRACK 1 BE SMART: BUILDING BLOCKS FOR A SMART SOCIETY IN A CONNECTED WORLD

14h00-15h30 Session 1: A changing regulatory landscape: Collaborative regulation – how to pave the road towards adoption of IoT, M2M?

#### Presentation of GSR Discussion Paper on Building Blocks for Smart Societies in a Connected World

This session will explore ...

- Setting the context - impact (efficiency, QoS, resilience of infrastructure, and sustainability)
- Redefining collaboration along the value chain from infrastructure to services to institutions: smart infrastructure, smart transport, smart grid, smart delivery of services, smart health, smart financial services, smart education, smart businesses
- How does ICT link with and contribute to other sectors and what is needed in terms of regulation – case study on smart energy/grids
- Challenges – the case of energy efficiency for ICT development

15h30- 15h45 COFFEE BREAK

#### Information Session on International Mobile Roaming Dialogue

15h45-17h00 Session 2: Digital Financial Inclusion – how to include the unbanked and unconnected in today's smart society?

This session will be an interactive panel session on:

- How to include the unbanked and unconnected in today's smart society?
- Collaborative Regulation to foster an enabling environment for digital financial services

Friday 13 May 2016

**TRACK TWO: TOWARDS A SMART DIGITAL SOCIETY**

9h00-10h30 Session 3: Future Technology Developments: Opportunities, challenges and business strategies

**Presentation of GSR discussion paper on Future Technology Developments and Regulatory Impacts**

This session will examine

Future Technologies: Drones, nano-satellites, Wifi, M2M/5G (HetNet), Future cables, NFV, WebRTC

- What are the requirements for future technologies? Reliability, latency, integrity and safety, openness, quality?
- Preparing the regulatory landscape: what kind of regulation is needed and who's in charge?
- Spectrum as a tool for innovation – where do we stand post WRC 2015? What are the new frontiers?
- 5G: what to expect? A revolution or evolution?

10h30-10h45 COFFEE BREAK

10h45-12h00 Session 4: Be empowered! What ICTs can do for you!

**Presentation of GSR discussion paper on Digital Platforms in a Collaborative Economy**

This session will examine ...

- What does the Ecosystem Look Like Today
- Do Free Basic Services Empower Communities and Individuals?
- Business and Investment Incentives and Sustainability in a Collaborative Economy – how the mass adoption of connected digital technologies and applications by consumers, enterprises, and governments is driving strategic and operational decisions and creating opportunities to empower citizens and business
- How extending access must be accompanied by the development of relevant content and new services so that innovation and entrepreneurship can be fostered and local digital platforms and content can help develop local digital economies

12h00-14h00 LUNCH

**Information session on Universal Service Reform Programme**

14h00-15h30 Session 5: Be included!

**Presentation of GSR discussion paper on Enablers for Smart Networks, Societies, and Individuals**

This panel discussion will examine ...

- Improving digital skills for new business opportunities/SMEs
- Smart policies and regulatory measures: entrepreneurship in a smart, collaborative economy - monetizing apps and smart services, cloud services, networks, crowdsourcing – crowdfunding
- What can regulators do to facilitate entrepreneurship in a digital economy?

15h30-15h45 COFFEE BREAK

**Information Session on Let's Roam the World**

15h45-17h00 Session 2: Real Life impact of Smart Societies – How to maintain trust?

This interactive debate will see panelists share their views on Privacy, Trust and Cybersecurity – the foundation for the development of our smart society (e.g., securing e-commerce/ financial transactions, digital identity)

Demo: Cyberdrill – illustration of what needs to be done when there is a cyberattack

Saturday 14 May 2016

08:00-09:30 Director's Breakfast (upon invitation only)

09h45-12h15	<p><b>REGULATOR TRACK</b></p> <p><b>GSR16 Best Practices Guidelines: Discussion and Adoption</b></p> <p>This session will address the GSR Best Practice Guidelines with a view to their adoption by regulators.</p> <p><b>Meet the Regulators – Exchange Platform between regulators – e.g. Content, Telecoms, Financial Services, and Energy?</b></p> <p>Regulators will share their experiences and expertise, not only in the ICT/telecommunications sector, but also in terms of how ICT/telecommunications interacts with other regulation so that they can define tools and guidelines to leverage their head start on regulation in a collaborative, 4th, and even 5th generation ICT regulatory environment. This session will examine case studies on e-health, electricity, content, and include regulators from financial sector, energy sector, health sector and broadcasting.</p>	<p><b>INDUSTRY TRACK</b></p> <p><b>Industry Leaders Debate – Impact of open innovation and new business models on Collaborative regulation</b></p> <p>Open innovation, shared resources, and networked business models are key components of innovations and new developments in most industries, including ICTs. Companies cannot develop and control everything alone, but will use services from other companies and open their own services to third parties. Success may depend more on how companies can be a hub in the ICT ecosystem than just on building and owning infrastructure. This session will allow participants to exchange on business models, partnership models and regulation.</p> <p><b>Industry Leaders Debate – Regulatory KPIs</b></p> <p>This session will examine Regulatory KPIs in a 1st to 4th Generation Regulation Context – ICT Regulatory Tracker as Basis for Discussion.</p>
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12h15-13h30 Way forward and closing ceremony:

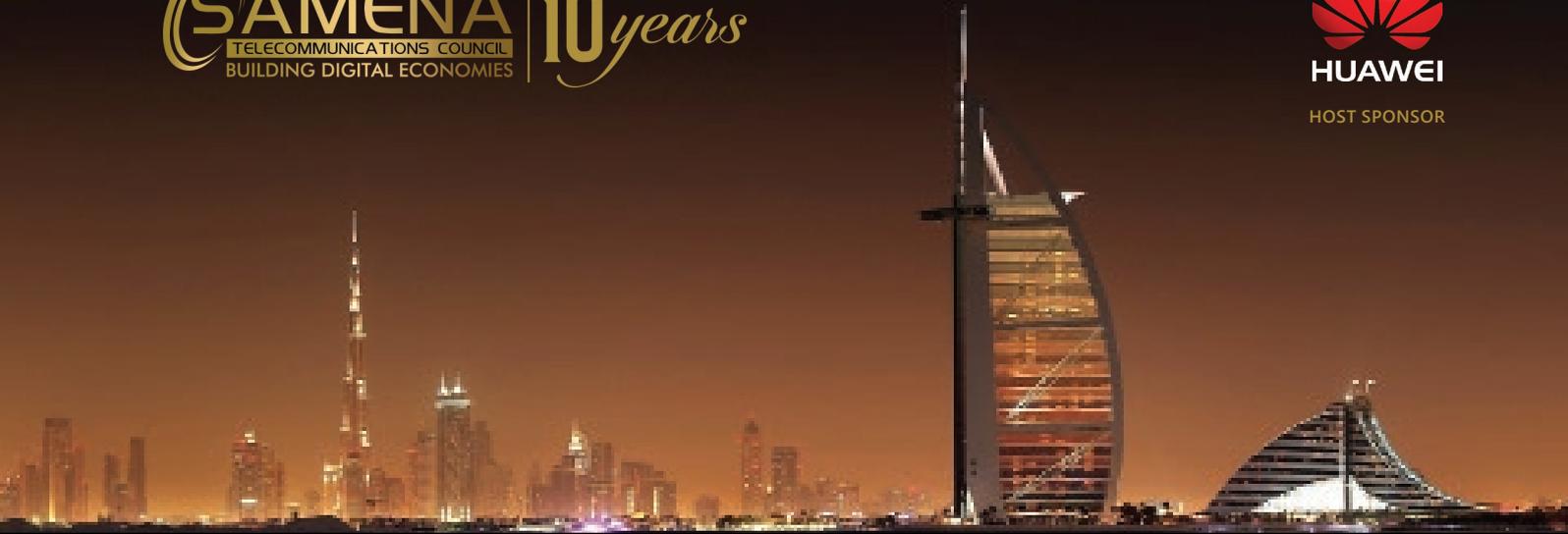
- Presentation of GSR16 Best Practices
- Summary of Pre-event Workshops
- Presentation of CRO and RA reports
- Guru impressions

Moderator: Brahima Sanou, BDT Director

Panelists: GSR past, present and future chairs

Highlights Video

13h30-14h30 LUNCH



# TELECOM LEADERS' SUMMIT 2016

19th May 2016

## Challenges of the Digital Economy and the Stakeholders' Need for Alignment of Priorities in a Better Connected World

Over the last three decades, the world has consistently witnessed the advent and growth of telecommunications and computing linked phenomena, causing major shifts and changes in economic activities across the world. For the last ten years, specifically, such phenomena have been much more apparent to the eyes. Still over the past few years, many more tangible effects of such phenomena have been observed, giving rise to the development of what is now referred to as the digital economy. Digital economic activity is based on the digital transformation of previously existing goods and on the emergence of purely new digital goods.

The notable fact that information and communications technologies have not only aided the creation of goods and services, which have now become essential to the human living style, but have also catalyzed new paradigm shifts in how new goods, whether purely digital or not, are created, manufactured, distributed, traded, and consumed in our increasingly digital societies.



Taking the G20 economies as an example, it can be speculated that the impact of digital economy may already have reached or exceeded US\$4 trillion. In the SAMENA region alone, in 2013, the potential of economic impact due to the adoption of digital services and applications was approximated by SAMENA Council to exceed US\$1.3 trillion. Such approximations, needless to say, are founded on existence and availability of high-speed fixed and mobile networks, affordable user terminals, innovative applications and content, and reliable and secure cloud based services.

As the digital economy is dependent on digital infrastructure, there are pressing issues that need to be overcome for the digital economy to thrive, as many nations step into the world of smart

Nonetheless, the business of digital development, given its central role in the development of digital economies and the realization of smart digital societies, and with its myriad of private-sector and public-sector stakeholders and complexities across all dimensions, now demands an unprecedented level of co-operation and and sector-wide understanding of stakeholder priorities. Without collectively aided understanding of such priorities and issues, which could only be addressed through cross-stakeholder dialogue, it is no longer feasible to achieve true progress, save time, realize operational efficiencies, meet national as well as international obligations, and ensure a viable and sustainable future for both business and socio-economic well-being, purely based on individualized priorities and values.



societies. Some of the issues revolve around insufficient investments, lack of spectrum resources, archaic regulations, lack of measurable ICT policies, or sluggishness in digital development, which may simply be specific to certain markets and regions, given their socio-economic and geopolitical dimensions.

It is imperative to realize that individually-set priorities have a much better chance of reaching fulfillment if they are well-corroborated, subordinated to our collective will to meet our digital agenda, and if they are cross communicated for the purpose of seeking common grounds

and mutual contributions that lead to fruition of those priorities.

Moreover, it is imperative also to realize that in the absence of required reforms - the need for which has been firmly established by all the stakeholders from both private and public sectors, we must collectively bear responsibility for undermining economic growth and the potential for elevated standard of living of our people. Thus a much greater understanding of all facades and realities of the evolving world of telecommunications among all stakeholders is critically needed. And that is possible only if all stakeholders are aware of each other's priorities and areas of both immediate and long-term focus.

Collective and all-inclusive participation across the decision-making spectrum has become inevitable.

## Leaders' Summit: Objectives for 2016

In this great period of excitement, progress, investment planning, and a sense of urgency within the policy-making circles to advance digital development, SAMENA Council feels that, with its new, dynamic leadership announced this month, and given its global leadership role in bringing private-sector in closer alignment with regulatory preferences, it is a matter of utmost importance that future decision-making among stakeholders be aided in the best manner possible. To this effect, Telecom Leaders' Summit, an annual top-tier stakeholders' meeting being organized since 2010 by SAMENA Council, an operator industry association.

Leaders' Summit, in the past, have recorded tremendous success and top-tier participation from across the SAMENA region.



# Leaders' Summit Over the Years



It is the primary objective of SAMENA Council's Telecom Leaders' Summit to facilitate and drive such cross-stakeholder participation and open communication by bringing together business decision-makers, investors, policy and regulatory authorities, and global institution-level leadership, in order to open new avenues of progressive thinking and future planning for the benefit of both the telecoms and ICT industry and the ultimate stakeholders – the citizens, the consumers.

Creating linkages between stakeholder priorities and improving stakeholder relationships are daunting tasks. However, SAMENA Council is well-equipped to execute such tasks and the Leaders' Summit is a means to achieving progress toward this effect. This year's Leaders' Summit will delve into the following areas of discussion and efforts will be exerted to advance significant post-gathering cooperative undertakings, bearing long-term positive impact for the telecom industry of the SAMENA region and beyond.

- Re-defining Priorities in Policy, Regulation, and Infrastructure Development
- Necessities of the evolving market and relevant legislation & regulation
- Viable areas of investment and stakeholder partnership to help reduce financial burdens

Our industry, the enabler of everything digital, has experienced many evolutionary waves and continues to do so, with new telecommunications technologies emerging from all corners of the digital ecosystem. More than 4 billion users of the Internet will be online in a matter of months from now. Out of these, a wide majority, in one form or another, will be using over-the-top platforms - a major disruption in the industry - to stay connected and access user-generated data, among other content.

What we have created by now, is a world of ubiquitous connectivity, which is quickly transcending the bounds of human-to-human interaction and taking us into the human-to-machine realm. Perhaps, such evolution is integral to the realization of smarter societies and more efficient approaches that would offer improved insurance of socio-political and socio-economic participation.

There thus exists a sore need for defining and pin-pointing what the real requirements in this region are, and what region-specific approaches can be adopted through stakeholder co-operation and willingness to achieve much larger, far-reaching digital development goals.

Given the the efforts of many a government and participation of the private-sector entities, including telecom operators, various telecoms markets of the region have assumed the right direction toward achieving digital progress for the betterment of their citizens. In such a scenario, it is likely that as national development goals begin to achieve fulfillment relative to developed nations of Europe and North America, or other markets regarded as having been developed, the possibility of introducing legislations and regulations inspired from other markets may also increase. Such a trend could undermine innate market dynamics specific to this region, and even more specific to each individual regional market, and may also prove to be detrimental to the sustainability of the business in markets of this region. We are already seeing a rising trend of over-taxation in many countries within and beyond the SAMENA region; among other sources of impedance that directly affect the will and the possibility of investment. There thus exists a sore need for defining and pin-pointing what the real requirements in this region are, and what region-specific approaches can be adopted through stakeholder co-operation and willingness to achieve much larger, far-reaching digital development goals.

At another layer, it is only through close communication that all stakeholders would be able to align themselves toward achieving both individual and collective success. In the digital world, such success will be measured by the level of convenience, reach, inclusiveness, access to opportunities, and physical routes leading to riches of life provided to the common man. No smart society will function properly without guaranteeing advanced-level services to its citizens; no investment will find its return without being of service to the people, its intended recipients.

But where do we start from, and how can cross-stakeholder willingness to cooperate be transmuted into tangible steps that would generate more revenue opportunities, without having to rely too heavily on archaic approaches that measure revenue success and failure only in terms of taxes and duties?

Telecom Leaders' Summit 2016 will be held in Dubai, UAE, on May 19, 2016. It will coincide with SAMENA Council's ten-year anniversary, marking the beginning of a new era in SAMENA Council's history as a regional telecom industry association.

It is hoped that the the SAMENA Council-aided understanding of stakeholder priorities would help promptly unearth development potential in this region and would help:

- Promote entrepreneurship in the ICT sector through smart capital injection and incubation programs
- Build knowledge capital through advanced ICT program
- Improve digital literacy through ICT integration in education, awareness and training programs
- Encourage ICT usage among businesses through awareness
- Institutionalize measurement and monitoring mechanisms in the ICT sector
- Improve healthcare quality and delivery through tele-health solutions
- Enhance efficiency of energy sector through smart grids and digital oilfields
- Use ICT as a tool to enhance education
- Improve digitization of financial services
- Invest in state-of-the-art transportation, among other "smart city" services
- Institutionalize cross-sector collaboration to drive digitization across sectors
- Promote ICT investments through the easing of regulations and financial requirements
- Create investment friendly and futuristic business environments