Volume 07, November, 2016

A SAMENA Telecommunications Council Newsletter

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# SAMENA TRENDS

EXCLUSIVELY FOR SAMENA TELECOMMUNICATIONS COUNCIL'S MEMBERS

## BUILDING DIGITAL ECONOMIES








**LEADERSHIP PROWESS IN ICT DEVELOPMENT A REAL DETERMINANT OF SUCCESS FOR SAUDI ARABIA**

International Telecommunication Union

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Telecommunications Regulatory Authority

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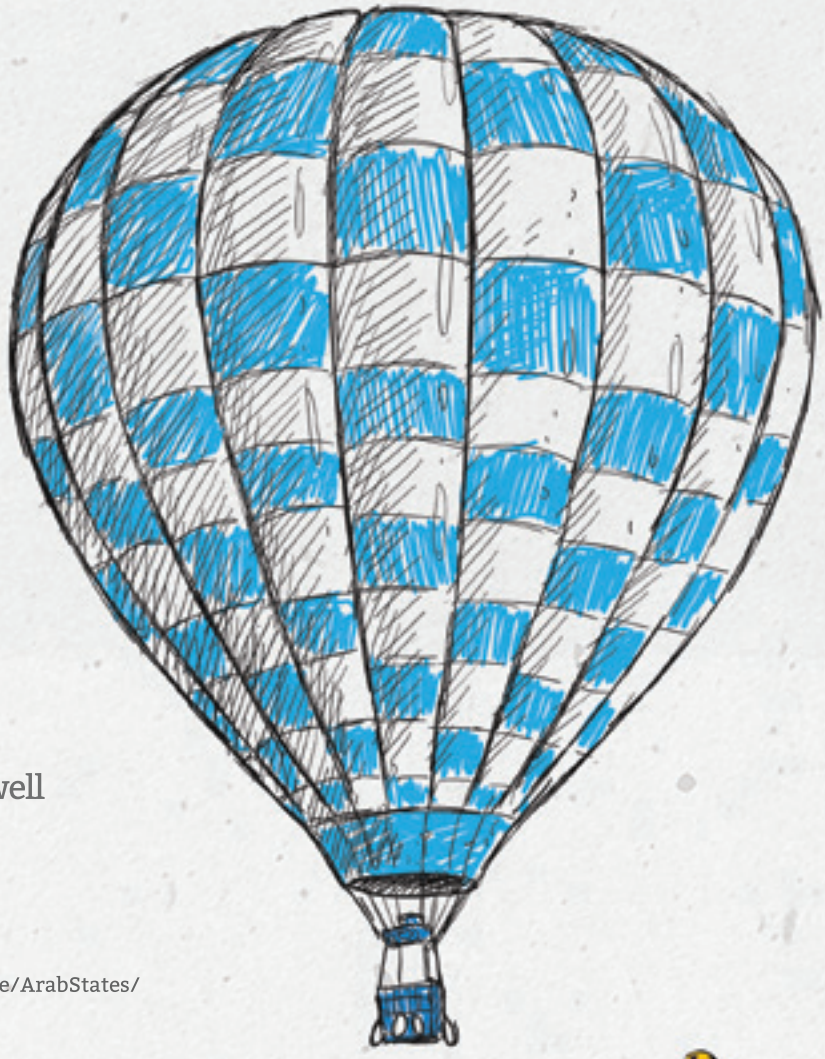
# ITU Regional Forum on ICT Measurement

13-15 December 2016
Dubai, United Arab Emirates

## 14 December - VIP Opening

The objective of the forum is to strengthen the capacity of countries in the region to produce national indicators and statistics on telecommunication /ICT, based on internationally agreed standards and methodologies. The forum targets officials and national experts, especially from Ministries, regulatory agencies, national statistical offices, service providers, regional and international organizations as well as other relevant stakeholders.



**For more information:**
http://www.itu.int/en/ITU-D/Regional-Presence/ArabStates/Pages/ICT-indicators.aspx

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# Beyond Connectivity 2017

## Get Ready! Muscat March 2017

**About Beyond Connectivity**

SAMENA Telecommunications Council's Beyond Connectivity conference is an annual event, bringing together senior to top-level executives from regulatory bodies, telecom operator groups, technology companies, as well as other ICT industry players, including management consulting companies. The goal of Beyond Connectivity is to serve as a knowledge-sharing platform and to convene industry experts together, to discuss industry matters and business areas of interest to the industry, while providing a networking platform for the Council's members. A key outcome of the discussions of the BYC conferences has been the escalation of industry priorities and issues to the decision-making and policy-making tiers of the ICT industry, triggering further policy-level dialogue on key matters, with the involvement of both private and public sector stakeholders. The BYC conference has also served companies as a platform for announcing business partnerships. Various members of SAMENA Telecommunications Council have also used the strategically themed BYC events to showcase their innovations, new products and services.

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BUILDING DIGITAL ECONOMIES

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# Modernizing Industry Regulation to Support Investment in Digital Services

There is no second-guessing when we speak of the impact of evolving realities of technology and economics on modern telecom regulation, and vice versa. Both ways, the impact has been tremendous when judged through the lens of infrastructure development and progress in ICT development.

The fact of the matter is that economics of regulation and the challenges presented by the implementation of next-generation technologies, and, indeed, by digital services that are enabled by those technologies, have changed much in the industry. At the very least, cost reductions, made possible through the mutual efforts of regulators and telecom operators, have made it possible for the general public to access digital communication facilities once considered a luxury for a few. The industry has transformed in numerous ways. Public and private sector stakeholders have modified their stances and approaches, and we are witnessing the onslaught of digitization, which is increasingly ensuring inclusion by all, compelling digital experiences for many, and raising complexities of keeping pace with modern trends for some.

For Administrations, specifically, the emerging future of telecom regulation has invited cross-checking of abilities, readiness, and visions to respond to the growing realities of the market, which include, among many, convergence of media, content, digital services, and overall digitization. Historically, regulation has been used to achieve desirable competitive market outcomes and fulfill social communication needs (for example, extending access to under-served areas), create or manage price advantages that ensure inclusion of many users, and help the industry avoid fragmentation and ensure interoperability. Justifiable as it may be, making effective use of elements of market organization in many communications contexts often requires considerable and detailed regulation. This, in many ways, renders telecom regulation innately inflexible and its pace, especially given modern communication technology and constant creation of new services and goods, can almost always expected to be slower and inconsistent with new advancements. Moreover, It is also a fact that telecom regulation itself faces challenges from general regulation, sometimes triggered by or applied in an ad-hoc fashion, including for socio-political reason, in the name of national security, or in public interest. Such regulatory practices exist within the SAMENA region, especially in South Asia.

Keeping up with the spirit of digital development goals, proliferation of digital services, applications, tools, and systems, with IoT beginning to take shape, and with 5G trials already happening, existing regulatory arrangements are bound to undergo transformation, for it would be infeasible to continue with the same approaches. Many a time, telecom regulations, even if they had worked well for existing market conditions (such as in the telecom-only era), tend to yield poor results when applied to markets for new products (for example, the current OTT services age). With the onslaught of new digital technologies and services, this very situation has now surfaced before us.

What would really describe transforming telecom regulation to cope with the emerging realities of the industry, is working with the private sector so that the regulator always has updated technical information as well as realistic understanding of market dynamics; redefining public interest objectives and disallowing superficialities to determine the course or application of regulation; and, most importantly, reducing complexities, especially for instance, when two private entities decide to engage in business transactions with each other, as is case with some telecom and media companies the world intent on merging their operations.

The notion of what is in public interest and what isn't, while difficult to clearly define, is an important part of the puzzle of modernizing telecom regulation. Regardless of its actual or intended definition with respect to a given market's conditions, some key universal objectives should remain when justifying the existence of regulation: It should promote innovation in service delivery, encourage growth of the industry, foster ubiquity of telephony services, especially access to the Internet, and ensure that unnecessary regulatory practices, which may be far more detrimental than having no regulation at all, would not seep into the actual spirit of the regulatory arrangements.

Regulation in telecoms industry has indeed had a significant impact on the progress of the industry. However, there are significant changes that need to take place now in view of how the industry has matured and advanced. In a challenging time period, when telecom operators, despite having expended billions in infrastructure and network upgrades, are being challenged by the use (or not enough use) of their own assets -- which, in many cases, are being used by other market entrants much more effectively -- it is in the best interest of the industry that regulation be developed for the purpose of promoting growth of in the industry in the new era and should be used sparingly --- and that too only when it has gone through a much required makeover.

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

SAMENA Telecommunications Council not only appreciates the efforts of the regional regulatory bodies in addressing the industry's needs of today, both in the interest of telecom operators as well as for their own ICT policy goals, it encourages regulatory bodies to foster stakeholder cooperation and allow the private sector to feel welcomed in facilitating collaborative regulation into reality. Regulatory policies that deviate from the realities and outcomes of the market in any way, would not only reduce the pace of adoption of advanced digital services, they would compromise the very openness that regulatory authorities all around the world are trying to promote in order to invite the interest of the private sector in the provision of new services that promise the end-user digital inclusion, participation, convenience, and access to information that may add quality to life.

# MEMBERS NEWS

## STC Mulling an Option to Raise Stake in Oger Telecom

Saudi Telecom Company (STC) is reportedly considering raising its stake in its 35%-owned subsidiary, Oger Telecom, as it is looking into ways of improving the unit's debt position, Reuters reports citing sources familiar with the matter. The Lebanese-controlled Oger Telecom – which has interests in Turkey (Turk Telekom) and South Africa (Cell C), plus several internet operations (branded Cyberia) in Lebanon, Jordan and Saudi Arabia – is negotiating with creditors ahead of its next loan payment deadline in March 2017, after missing a USD300 million payment on a USD4.75 billion loan last month. An unnamed source was cited as saying: 'Meetings with banks are being carried out now. Efforts are underway to facilitate the restructuring and paying of future debts.' TeleGeography notes that Oger's Turkish unit secured the USD4.75 billion syndicated loan in 2013 from a consortium of domestic and international banks to reschedule and refinance debt and pay a dividend.

## STC Launched New Service to Repair Smart Devices; also Won Gold Medal for Contact Center Operations

Saudi Telecom launched a "privileged protection" services that will allow repair breakdowns and incidents of use, such as breakage and falling into the water, which is not covered by the guarantee of the agent, with a replacement option with a new device. The service guarantee will last for 18 months by subscribing for privileged protection package for SR 39 a month , or SR 49 for privileged protection plus package. Amounts will be added to the customer's bill, while the first three months will be free.Also, for its data-center operations, STC recently received a gold medal and was awarded silver medal for "Best use of Social Media in the Contact Center" during Contact Center World Summit 2016. Mohammad A. Almositeer, Technical Centers Director, received the awards on behalf of STC.

## Batelco Wins Fastest Mobile Internet in Bahrain Award from OOKLA

Batelco, the Kingdom's leading digital solutions provider has been recognized by Speedtest by OOKLA for its outstanding performance as Bahrain's Fastest Mobile Internet provider. Speedtest by OOKLA is the global leader in broadband and mobile speed testing and web-based network diagnostic applications. The company's software and methodologies set the industry standards for accuracy, popularity, ease of use and the subsequent development of statistical data. Speedtest.net is one of the most popular web sites on the Internet with over 200 million unique visitors last year. Batelco's internet services have won an enviable reputation throughout Bahrain for reliability, fast speed and value for money. Batelco Bahrain CEO Eng. Muna Al Hashemi said that investing in fast and reliable internet services was crucial for Batelco's strategy to lead in the delivery of digital products and services for the Kingdom of Bahrain. "We are very pleased with the recognition by OOKLA; it confirms that our efforts are meeting the need for world class services for residents of Bahrain," she said. "Batelco provides its customers with the fastest mobile internet available in Bahrain. We are delighted to acknowledge the strength and quality of Batelco's network as well as their dedication to delivering fast speeds," added Jamie Steven, EVP at Speedtest by OOKLA.

# Batelco Bahrain CEO Named Businesswoman of the Year at Arabian Business Awards

Manama, Bahrain: Batelco Bahrain CEO Eng. Muna Al Hashemi has been named Businesswoman of the Year at the Arabian Business Achievement Awards event held at the Armani Hotel, Dubai, UAE on November 28. The Arabian Business Achievements Awards is considered among the most prestigious awards events in the region with a huge number of VIP's, Media and leading executives in attendance. Eng. Al Hashemi was selected in recognition of her exceptional efforts over the course of the past year. The Business Woman of the Year award champions trailblazing women's contribution to the organisations they represent and their vital role within the business community.


"I am honoured and proud to be selected for this great award," Eng. Al Hashemi said following the award ceremony.

"Achieving such an accolade would not have been possible without the excellent teams of Batelco employees who support me on a daily basis and work tirelessly to meet the Company's strategy. I extend appreciation to each and every Batelco team player; this award belong to them also," she said.

# Batelco achieves Avaya platinum certification

Batelco, Bahrain's leading digital communications solutions provider, has been awarded the Platinum Certified Partner status by Avaya. This certification by Avaya recognizes Batelco's commitment, investment, experience and also its dedication to customer satisfaction. Batelco is now an authorized Service Provider at the Platinum certification level for Avaya Products and Solutions. In addition to its recognition for expertise in solution sales, design, implementation and advance troubleshooting, Batelco has also earned Solution Expert Specializations in Enterprise Unified Communications, Mid-Market Unified Communications and Networking. Furthermore, Avaya has also awarded Batelco with the 'Partner in Customer Excellence' accolade, based on Batelco's superior customer satisfaction as indicated by a high score achieved in a customer survey. Batelco Bahrain CEO Eng. Muna Al Hashemi said that Batelco has an ongoing commitment in providing the best-in-class solutions for its customers to support their efforts to grow and optimize their businesses. "To earn the Platinum certification, Batelco was required to meet a number of competency requirements set forth by Avaya including service, support, customer satisfaction and networking. This would not have been possible without the diligent efforts of many teams at Batelco who continue to priorities the requirements of our business customers," she said. Batelco Chief Marketing Officer, Mike Stanford, said that the Platinum certification authorizes Batelco to offer design services and support for numerous business systems and associated peripheral equipment, to end user companies. "The Avaya Platinum certification is an industry recognized accreditation which indicates that Batelco has met rigorous criteria to ensure superior technical competency and also has the ability to deliver best-in-class customer service and support," added Mr. Stanford. Batelco is a major ICT vendor in the region and is the largest partner of Avaya in Bahrain. The attainment of some of the highest regional and international certifications – including this Platinum status from Avaya - is a direct result of the company's significant investments in the latest telecommunications and ICT technologies that ensure its customers are among the first to enjoy the benefits of such technologies.

# Zain Saudi may add Fiber-Optic Internet Access after Winning License Upgrade

Mobile Telecommunication Company (Zain Saudi) is considering introducing new services such as fiber-optic internet access in Saudi Arabia after winning an upgrade to its license, a move that would bring the scope of its offerings nearer to larger Saudi Telecom. Saudi Arabia's third-largest phone operator "has the most to gain" from a licensing change by the government because it was only able to provide mobile services before, Andrew White, its chief strategy and business development officer, said. The company can start landline voice and data services after the government said it would upgrade telecommunications carriers' licenses. "We are currently studying exactly what it makes sense for us to do," Mr. White said in Riyadh. Zain Saudi is getting a so-called unified telecommunications license and a 15-year extension to its permit after a high order by the kingdom last month. The government granted the same terms to other telecommunications companies, including Saudi Telecom and Etihad Etisalat. Previously only Saudi Telecom, majority owned by the government, had been able to provide a full array of services. Shares of Zain Saudi, a unit of Kuwait's Zain, have risen by 8 per cent since the order was announced, compared with a 6.4 per cent gain by the Tadawul All Share Telecommunications Index. The carrier is looking at how it can partner with "existing players" to offer fiber-optic internet access, Mr. White said. The company doesn't see sense in spending billions of riyals on new infrastructure when the kingdom already has several networks in place, he said. Zain Saudi may work with multiple partners, Mr. White said. The carrier recently announced an agreement with Saudi Electricity Company, which could allow them to jointly use existing infrastructure such as the power company's ducts into residential properties, he said. "There's a great opportunity for us to selectively identify areas where there is a sensible demographic, economic capacity and demand for fiber coverage, and where others haven't rolled out yet," Mr. White said. Rivals including Etihad Etisalat, known as Mobily, will also benefit from the unified license. "They will have the ability to provide fixed voice services which they weren't able to provide previously," Mr. White said. "We simply were not able to offer fixed services at all." The license extension will have a significant effect on the company's profit, Mr. White said. Zain Saudi originally paid 23 billion riyals (Dh22.5bn) for its license, which was scheduled to expire in 2032. Now, it will be valid until 2047, meaning that the company can amortize the license cost over a longer period, decreasing the expense each year by more than 400 million riyals. The company reported a loss of 972m riyals last year. "Clearly the current financial situation … is not sustainable," making the license extension vital, Mr. White said. In exchange for the extension, the companies will pay the government 5 per cent of their net income, the Capital Market Authority said last month. That won't apply until the extension begins in 2032, Mr. White said. Zain Saudi is "still considering all options" for its portfolio of about 7,500 telecommunications towers, Mr. White said. Hassan Kabbani, the head of Zain Saudi, said in March the company was considering selling the towers for cash and leasing them back, or working with competitors to create one company to manage them, among other choices.

# Zain Group Awarded 2016 Finance Team of the Year Accolade


Zain Group announces winning the Best Finance Team of the Year award for 2016 at the annual MENA CFO Excellence Awards held in Dubai on November 7, 2016. The event is organized by the international business facilitation experts Naseba Group and the honor is bestowed on a finance team who played an instrumental role in contributing to the success of their organization. In presenting the award, the Naseba judging panel stated that the Zain finance team, "Demonstrated a transparent and proactive approach to balancing time between managing a large amount of data and information requirements with business analysis, as well as delivering timely financial information and proposing innovative solutions to overcome existing challenges, bolstering the company's

transformation strategy to become a digital lifestyle operator." The role of finance at Zain Group is constantly evolving and the team is comprised of professionals who possess a transformational outlook and display an enthusiasm and curiosity to push boundaries and challenge conventions, delivering phenomenal results. Zain Group's finance team has excelled at all the activities it undertakes, with the department's prime focus having remained satisfying customer needs through helping all stakeholders within the organization to achieve strategic goals, while managing risk and maintaining oversight regarding compliance requirements. Appreciative of Naseba's acknowledgment, Zain Group Chief Financial Officer, Ossama Matta said, "This is a highly skilled area of activity and we have some of the best talent working with us, which is a significant competitive advantage in ensuring the future prosperity and sustainability of the company. Utilizing and leveraging cloud-based innovative solutions across key finance and accounting processes, the Group finance team is playing a vital role across all facets of the organization in driving the implementation of the Group's growth strategy and transformation to a digital lifestyle operator. Matta added, "We have made "driving efficiency and cost optimization" one of our key strategic pillars and over the past 12 months these efforts are paying off as reflected in our year-to-date financial results, outperforming our peers across the region. The finance team is constantly innovating and adding strategic value to the organization by turning data and information into insightful analysis, which assists colleagues across Zain Group and its eight country operations in planning, strategy and decision-making." Over the past year, the Zain Group finance team has passionately undertaken a range of responsibilities that the judges at Naseba identified as requiring significant skill, and these included the team having implemented and fully leveraging the latest cloud-based solutions across key finance and accounting processes to support the performance agenda of all eight mobile operations. The finance team improved the control and visibility of data while being given the opportunity to focus energy on enhancing business intelligence, developing more accurate forecasts, and tightening internal controls to assure accurate financial reporting and proper compliance.

## Zain Group Wins CommsMEA's Best Overall Operator Award for 2016

Zain Group was awarded the highly coveted Best Overall Operator of the Year award at the 2016 edition of the CommsMEA Awards ceremony. Zain Iraq was also awarded the best Marketing Campaign of the Year accolade for its 'Hassa Eliya' (Now for Me) multi-faceted campaign that focused on inspiring and empowering young Iraqi talent. At a gala event held at the Conrad hotel in Dubai on November 9, 2016, Zain Group was identified as the region's best performing mobile operator having devised a clear strategy that it is implementing over the next five years, which is based on taking advantage of the operator's competencies including its people, networks, leading brand and geographic coverage. The CommsMEA awards judging panel acknowledged Zain Group's six strategic initiatives aimed at making the company future-ready and capture the enormous potential of the regional and global digital arena as being particularly insightful. These plans extend to 1) Customer Experience; 2) Cost Optimization; 3) Talent Development; 4) Zain Digital Frontier and Innovation; 5) Customer Value Management and 6) Enterprise, all of which are based on supporting Zain Group's effort to capture a significant market share of smart city and digital revolution developments. Zain Group is currently placing a great deal of emphasis on implementing data revenue optimization initiatives and enhancing its customer experience, to positive effect. The operator's efforts to place the customer at the heart of everything it does has successfully built brand and loyalty, which has led it to maintain market leadership by customer numbers in the majority of markets in which it operates. Commenting on Zain Group's honor, Scott Gegenheimer, Group CEO said, "We operate in a highly competitive industry, where the margin between success and failure is very thin, and being identified as the Best Overall Operator for 2016 is some accolade. We would like to thank the judging panel for also recognizing Zain Iraq's marketing efforts, and let our customers know that we shall continue to innovate and work tirelessly to give them an exceptional mobile experience." In March 2016, Zain's operation in Iraq launched a multi-faceted marketing campaign dubbed "Hassa Eliya," (Now for Me). The ground-breaking marketing initiative focused on inspiring and empowering young Iraqi talent by encouraging them to explore their potential and skills, and equipping them with the necessary tools to help achieve their goals. The first initiative utilized in the program was a specially created "Hassa Eliya" Facebook page that served as a platform for young Iraqis to voice their

ambitions and which showcased a newly produced television commercial, which garnered an impressive five million views in its first 72 hours of release. Some six months later, this viewership number had increased to 16 million with 70 million impressions, with a total engagement that exceeded 550,000 young Iraqis inside the country and from around the globe. "Hassa Eliya" managed to transcend being just an enormously successful marketing campaign for Zain, and ultimately made a real impact on people's lives in the country and throughout Iraqi community at large and deservedly the effort was recognized as the best marketing campaign of 2016. Zain have tied up with leading technology and content companies including UBER, Booking.com and global games developer, Zeptolab, to bring to market a number of popular applications, in many cases under some pretty unique and pioneering circumstances. Zain also made strategic investments in smart city consulting firm, neXgen and mobility solutions developer and consultancy firm FOO to fast-track its digital lifestyle offerings. Additionally, Zain entered several service agreements to enhance its offerings for the provision of an end-to-end mobile money solution that saw the launch of mobile money services for the unbanked in Jordan and Iraq, and which is in the process of being deployed across other operations. Zain also introduced direct operator billing (carrier billing), making several Zain operations among the first in the region to enable customers to safely and seamlessly pay for goods from a third-party content or service provider digitally, by charging the transaction to their monthly mobile phone bill or through their prepaid mobile credit. Sustainability, transparency and thought-leadership are at the very core of Zain's business and this is reflected in every aspect of the company's day-to-day operational activities. Zain annual Sustainability Report highlights the company's continued hold of its regional leadership position in pursuing its sustainability agenda and supporting its communities through outreach activities such as capacity-building, education, socio-economic development, and environmental stewardship.

## Zain's Gegenheimer Elected to GSMA Board

Gegenheimer will be involved in "charting the future course of mobile connectivity across the globe" at the GSMA, which represents the interests of over 800 operators, almost 300 companies in the broader mobile ecosystem, and many other organizations in adjacent industry sectors. "I would like to express my gratitude to the members of the GSMA Board for bestowing this honour on me and Zain," said Gegenheimer on his selection. "The GSMA has a proud history of elevating the requirements of mobile network operators globally and championing causes that have led to our industry becoming one of the most successful ever. I look forward to representing the region, fully recognizing how essential our industry endeavours are to empowering and improving the quality of life in the Middle East and Africa and beyond." His appointment to the board, according to a release, is: "A reflection of the esteem that the GSMA Board holds him in personally, as well as its regard for Zain Group as one of the leading mobile operators in the Middle East and Africa, actively supporting GSMA initiatives in the development of the mobile telecommunications industry." The Board has 26 members, including 25 operator representatives from the world's largest operator groups, together with smaller, independent operators with global representation. Gegenheimer's term ends in December 2018.

## Turkcell Boosts Q3 Rrevenues by 8.8%; Selects Ericsson as Long Term Managed Services Partner

Turkcell has selected Ericsson to manage and operate its 2G/3G/4G mobile and fixed network including fiber-optic infrastructure and microwave links, in a continuation of a long-term partnership between the two companies. Ericsson is now Turkcell's exclusive managed services partner in the Marmara region, which includes Istanbul. As part of the agreement, Ericsson will undertake end-to-end engagement including operations, maintenance and expansion of Turkcell's mobile and fixed networks. Ericsson will also introduce tools, processes and refined ways of working designed to improve performance, predictability, and quality of services as part of the deal. Gediz Sezgin, Senior Vice President of Network Technologies at Turkcell said: 'Our ongoing strategic cooperation with Ericsson extends beyond our requirements as a mobile network operator. At Turkcell, we continue to invest in both our current network and future technologies … We see this cooperation as a milestone in order to reach common goals.' The Turkcell group posted an 8.8% year-on-year rise in third-quarter revenue to TRY3.659 billion (USD1.174 billion), whilst consolidated EBITDA climbed 4.9% to TRY1.218 billion in the three months ended 30 September 2016. Consolidated quarterly net income improved 4.2% y-o-y to TRY705 million on a pro forma basis. In Turkish operations, the operator posted 3Q16 revenues of TRY3.276 billion – 89.5% of the group total – up by 7.9% compared to the same period of 2015. Total subscribers across five countries stood at 49.7 million at end-September 2016 – of which 34.8 million (70.0%) were in Turkey – a figure which fell by 2.8% year-on-year.

# Turkcell CEO, Kaan Terzioglu Elected to the GSMA Board

The GSMA named its 26-member Board which will serve from January 2017 through December 2018. Turkcell CEO Kaan Terzioglu was elected to serve on the Board - Turkcell's high level of global engagement and contributions to the development of the mobile communications sector were factored in its election. Turkcell CEO Kaan Terzioglu emphasized that Turkey, which has recently introduced 4.5G, is a country that has a very interesting story in the field of communications – and that Turkcell will continue to contribute to the global discussion with its technological leadership in 4.5G, services-based business model and growing regional footprint. "The mobile communications industry has a huge potential to contribute significantly to our users' lives – especially as we start to expand the limits of technology with LTE and the transition to 5G. We aim to use this potential to the maximum with our 4.5G services, OTT offerings like BiP, TV+ and fizy, and 5G collaborations." said Mr. Terzioglu. "We are honored to serve on the GSMA Board for the second time as the industry goes through this important period. We are also proud to represent our country, and look forward to contributing to Turkey's mobile communication sector in cooperation with our fellow ecosystem players, including with Turk Telekom who have kindly supported us in this process." GSMA leads the mobile communication ecosystem into the future of communications The GSMA represents the interests of mobile operators worldwide, uniting nearly 800 operators with almost 300 companies in the broader mobile ecosystem. The GSMA also produces industry-leading events such as Mobile World Congress and other regional meetings, and acts as a thought leadership and sharing platform for the mobile community. As the mobile industry increases its potential to contribute to broader growth and sustainable development objectives, the GSMA is also actively involved with the development agenda. The organization supports the United Nations Sustainable Development Goals and works to increase operators' contribution to broader social good.


# Turkcell Selects Ericsson as Long Term Managed Services Partner

Turkcell has selected Ericsson as its partner to manage and operate its mobile and fiberoptic fixed network, which includes microwave links and covers all technologies from 2G to 4G LTE, continuing the long term partnership between the two companies. Ericsson is now Turkcell's exclusive managed services partner in the Marmara region, which includes Istanbul. As part of the agreement, Ericsson will undertake end-to-end engagement including operations, maintenance and expansion of Turkcell's mobile and fixed networks. Gediz Sezgin, Senior Vice President of Network Technologies at Turkcell says: "Our ongoing strategic cooperation with Ericsson extends beyond our requirements as a mobile network operator. At Turkcell, we continue to invest in both our current network and future technologies. We feel that our ideologies regarding the future of ICT are aligned with Ericsson. We see this cooperation as a milestone in order to reach common goals."

# Etisalat Digital Partners with PTC to Bring ThingWorx IoT Platform to ME

Etisalat Digital today announced its partnership with PTC to develop IoT solutions in the region based on PTC's ThingWorx®Internet of Things (IoT) platform. ThingWorx will serve as the platform on which Etisalat Digital will build its new solutions that include smart industry solutions, smart buildings and cities solutions, and fleet management solutions. PTC's open cloud platform architecture will enable Etisalat Digital to build a comprehensive IoT ecosystem of partners and solutions. "The Internet of Things holds significant potential in the Middle East region and we believe it will be a major component of growth in the digital solutions ecosystem," said Francisco Salcedo, Senior Vice President of Digital Solutions, Etisalat. "Collaborations like this one with PTC enable Etisalat to provide an array of solutions and strengthen Etisalat's position as a leader in the IoT space, capitalizing on the opportunities in the region." "Working with Etisalat further illustrates the importance of building an Internet of Things strategy around a robust platform that enables customers to seamlessly integrate the components that lead to IoT success," said John Stuart, Divisional Vice President, Global Sales and Partners, PTC. "With this agreement, PTC expands its technology into another new region, further demonstrating the potential for ThingWorx to be at the heart of IoT innovation around the globe." ThingWorx, the centerpiece of PTC's Internet of Things technology portfolio, is comprised of a rapid application development platform, connectivity, machine learning capabilities, augmented reality, and integration with leading device clouds. These capabilities combine to deliver comprehensive IoT technology solutions that enable companies to securely connect assets, quickly create applications, and innovate new ways to capture value.

# du and MediaTek Collaborate on Advancing IoT in UAE

UAE-based telecommunications service provider, du, has announced a collaboration with MediaTek, a fabless semiconductor company and leader in systems-on-chip (SoC), to bring Internet of Things (IoT) development kits to the Middle East for the first time. The joint effort offers hardware and software to design and build devices with cellular connectivity. The collaboration between companies aims to drive technology innovation in the UAE that will enable growth opportunities in Smart Cites, wearables, and other IoT verticals and domains. du is the Strategic Partner of Smart Dubai Office for the development and implementation of the Smart Dubai Platform and is pursuing the path to IoT by taking the lead to build a UAE 5G Innovation Gate (U5GIG ) to prototype, test and validate early 5G and Internet of Things (IoT) equipment and services. U5GIG will also allow universities and technical organizations across the UAE to work together and participate in the development of the 5G and IoT ecosystem, and for academia and industry to test applications and technologies in a real-world setting. "MediaTek is delighted to work together on advanced technologies with du to and help them realize their vision. This initiative will encourage local talent and boost hardware and software application development work in the UAE. Using MediaTek Hardware and Software Development Kits - part of our LinkIt platform - makes it easy for developers to create exciting and compelling products." said Rami Osman, MediaTek's Regional Director of Corporate Sales for MEA. "Both companies are also working with global industry partners on the next generation roadmap for IoT technologies and we see applications making a positive impact to the U5GIG initiative in the next few months," adds Osman. "As a leading telecom service provider in the region, we are an active member in domestic and global industry alliances to keep and enhance our competitiveness through technology collaboration with an industry leader like MediaTek. This move will create new opportunities for technology innovation to realize our vision to build Smart City that unites city services across different IoT verticals.," said Marwan BinShakar – VP mobile access network and operations at du. He adds, "The aim of setting up U5GIG is to bridge the gap between industry and academia. By collaborating with wireless technology leaders like MediaTek, we will deliver innovative communications solutions to our customers across the UAE."

# DE-CIX Wins Best Internet Exchange Second Year in a Row

DE-CIX, one of the world's leading Internet Exchange operators, has been honored as Best Internet Exchange 2016 by the renowned international trade magazine Capacity. DE-CIX earned this prestigious industry award the second year in a row. The award was announced during a gala ceremony held at the 2016 Capacity Europe Conference in Paris (France). The annual Global Carrier awards recognize innovation, vision, and excellence across the global and regional data center and Internet Exchange market. The awards are independently judged by a panel of telecoms analysts, industry experts, and the senior editorial team of Capacity magazine. Harald A. Summa, CEO of DE-CIX, happily accepted the Awards on behalf of the entire DE-CIX team and all customers globally.


# PCCW Global Wins Awards in Europe & USA with Transformative Digital Solutions

PCCW Global is delighted that our continued focus on delivering innovative and highly reliable services has been recognized yet again on an international level on two recent occasions. These innovations are part of an ongoing programme of strategic developments which continues to demonstrate PCCW Global's ability to deliver digital solutions globally whilst maintaining our all-important passion for service excellence. Chosen from over 200 entries, PCCW Global won the Best Unified Communications Innovation Award at the Global Carrier Awards held on November 8 in Paris. We were recognized for innovation for the provision of an international UCaaS platform which enables full automation of all elements from "lead to cash", affording service providers and their enterprise customers complete transparency and control over their unified communications services. These services are designed to enable service providers to extend their offerings into new markets and to build new and profitable revenue streams. The winners were decided by a panel of more than 20 judges, which included leading analysts and industry experts, aided by a new scoring system which ensured that decisions regarding both the shortlists and the winners remained both objective and transparent. For the second consecutive year, PCCW Global has been awarded with the Best Global Wholesale Service Provider at the 2016 MEF Excellence Awards held in Baltimore, Maryland. The Awards recognize service, application, technology, and professional excellence and innovation in the global Third Network community. The MEF awards program is the largest in the world, focused on advanced Carrier Ethernet services and emerging Third Network services powered by CE2.0, LSO (Lifecycle Service Orchestration), NFV, and SDN networking technologies. PCCW Global's network has recently been certified to offer all CE2.0 services and has now achieved historical milestones such as being the first CE2.0 certified network to offer services across continental boundaries and to offer 100Gbps services.

## Info2cell Expands Carrier Billing Connections Via Partnership with SLA Digital

SLA Digital, an international Digital Services company and Info2cell have partnered to bring Carrier Billing to more of their customers. Info2cell is one of the largest mobile application developers in the MENA region with connections to over 50 mobile operators in the region. Rami Dahabreh, COO at Info2cell commented on the partnership, "Partnering with SLA Digital expands our Direct Carrier Billing channels in the Middle East to group Mobile Operators like Zain. We are looking forward to building on our initial connection to Zain Bahrain with SLA Digital through additional operator connections in the near future." Info2cell's existing connectivity throughout the Middle East region means that they have the ability to offer an array of digital content to customers including games, multimedia and sports applications. Ashley O'Kane, Corporate Communications Manager at SLA Digital commented, "At SLA Digital we look forward to expanding Info2cell's connectivity across our Middle Eastern Mobile Operator portfolio. Carrier billing offers merchants the ability to offer their customers an additional secure payment option and an opportunity to increase their customer base."

## Orange Business Services Extends Contract with Philip Morris International Through 2022

Orange Business Services has strengthened its partnership with Philip Morris International (PMI) to provide global communications services until the end of 2021. Headquartered in New York, PMI is the world's leading international tobacco company, with six of the world's top 15 international brands and products sold in more than 180 markets. PMI is also making significant investments in the development and commercialization of a range of products with the potential to reduce individual risk and population harm in comparison to smoking cigarettes. Its ambition is that all smokers switch from cigarettes to less harmful alternatives as soon as possible. As part of this latest contract extension, Orange Business Services will deliver a range of managed services to 40,000 users worldwide, including a hybrid network and unified communications in more than 400 sites across four continents. PMI will continue to leverage the capabilities the two companies have created together, including the deployment of Microsoft Skype for Business. Today's solutions help empower staff and facilitate flexible work arrangements at home, in the office or on the go. Orange is also deploying a hybrid network for PMI to handle the insatiable bandwidth demands from video, connected devices and rich media. The hybrid network is a key enabler of PMI, to access real time and rich media content both on private or public clouds, with the necessary security and reliability. "We believe that hybrid networks are the glue to make digital components come together as digital reality, and we are looking forward to our future projects with Orange Business Services," said Terry Coates, Vice President, Global Technology Services, Philip Morris International. "We are proud to be a key business partner of PMI since 2001 and welcome the extension of our contract. We are fully on board to further support PMI's digital transformation with our next-generation networks and commitment to provide an unmatched experience for our long-standing customer," said Anne-Sophie Lotgering, Senior Vice President Europe, Russia & CIS, Orange Business Services.

## Huawei Introduces Fastest Chipset for Smartphones

Huawei has introduced the premium Kirin960 chipset to provide a smoother, faster and ore secure Android experience. For setting a new industry standard for smartphone powerful performance, speed and durability,Huawei introduces new Kirin960 for the newest commercial Cortex-A73 CPU, Mali G71 GPU and UFS 2.1 storage. The new Kirin960 will make its debut on Huawei's upcoming flagship device and is the latest addition to the Kirin900 family. This chipset will fully supports the newest graphics standard Vulkan to give an ultrafast experience.

# Microsoft Opens IoT Innovation Center in Taiwan

Microsoft has opened its first IoT Innovation Center for the APAC region in Taiwan. The center aims to offer cross-discipline technology transfer, strategic alliances, business model transformation and innovation opportunities. Taiwan was chosen because of its renowned high-tech and hardware manufacturing sectors. The center will act as a link between regional IoT partners and the world, covering R&D project integration, technology development, and international collaboration. As IoT solutions will need to be tested, verified, and improved via actual clients' projects, the Innovation Center will also include an IoT Community Lab that provides partners with IoT technology training, professional consultation, and three IoT Scenario Labs, delivering tailor-made services, such as technology development, architecture design, and business consultation. "The Microsoft IoT Innovation Center in Taiwan is our starting point for capturing the booming IoT opportunity in Asia," Microsoft Cloud Enterprise GM Chris Phillips said during the Microsoft IoT Expo held in Taiwan. "We aim to do this by accelerating the collaboration between Taiwan-based companies and global partners. We are already collaborating with close to 50 companies at the Innovation Center and based on the initial interest, we expect to have many more join us before the end of the year." Microsoft's regional ecosystem consists of 370 partners from Taiwan, Singapore, Hong Kong, Thailand, Malaysia, Australia, Philippines, India, Japan, Korea and China and encompasses industries including manufacturing, healthcare, transportation and retail. The company has been investing in growing the IoT ecosystem in Asia. About 50% of all companies that are Microsoft Azure Certified for IoT exist within the region. Since the signing of a memorandum of understanding (MOU) on IoT with the Ministry of Economic Affairs (MOEA) in Taiwan last October, Microsoft has actively promoted several IoT related industry and talent development programs. For example, the first DevDays Asia took place in Taiwan last April with presentations from over 10 scientists and architects.


# Ooredoo Implements new Ericsson Solution for Charging and Billing Customers

Ooredoo Group and Ericsson have agreed a five year contract to implement a revenue management system across the Group's footprint in the Middle East, North Africa and Southeast Asia. Ericsson Revenue Manager is a cloud-ready convergent charging and billing system that redefines the role of business support systems (BSS). It makes innovation fast and efficient, and opens the door to easier digital services creation that spans beyond telecom and integrates partners from different industries. Ooredoo Group companies will enjoy a single, converged platform that enables them to handle all their users and services, regardless of payment option or access method. The solution will be gradually deployed across all Ooredoo operations and will enable them to bring new offers for telecommunication services to market in minutes, rather than months. As a result, Ooredoo will realize significant cost savings from replacing its existing systems and local agreements with a pioneering new group-wide license model and the latest evolution of Ericsson's charging and billing solution across its operations. Ooredoo will begin rolling-out the solution for Indosat Ooredoo, its largest operation, over the next month, before deploying across its other operations in 2016 and 2017.

# REGIONAL NEWS

## Mideast ICT Spending to Grow 3.6% to $242.6b in 2017

Spending on information and communications technology in the Middle East and Africa (including Turkey) is expected to reach $242.6 billion next year, an increase of by 3.6 per cent. "The region is undergoing a transformation, not only on the technology side but also from an economic point of view. The year has been a particularly challenging, characterized by currency volatility, weak oil and commodity prices, and a subsequent softening of government spend," said Jyoti Lalchandani, vice-president and regional managing director for International Data Corporation (Meta — Middle East, Turkey and Africa). He said that digital transformation initiatives will top the chief information officer's agenda in 2017, as emerging technologies are increasingly leveraged in an effort to drive desired business outcomes. Ranjit Rajan, associate vice-president for research at IDC, said that over the next five years, the regional IT spending is going to change considerably. The hardware sector is expected to grow by 1.7 per cent, software by seven per cent, and IT services by 8.6 per cent. "Organizations are willing to experiment with new technologies. The spending on data services is increasing due to the adoption of new technology. Telecom services are also increasing along with IT spending in the region," he said. In 2017, the IT spending in the UAE is expected to be flat at $6.2 billion, although it is expected to increase to $7.5 billion in Saudi Arabia and $10.5 billion in South Africa. The rest of the Gulf Cooperation Council countries are expected to spend a total of $3.5 billion next year. He said the emergence and increasing traction of so-called 'innovation accelerators' such as the Internet of Things (IoT), robotics, cognitive systems, virtual reality, next-gen security, and 3D printing will both disrupt and boost this spending on the third platform (mobility, cloud, big data analytics, and social business). Rajan said that the third platform has become main stream and the adoption rates have increased considerably. He outlined five trends — cloud, big data analytics, innovation accelerators, security and Smart City initiatives — that are expected to shape the region's investment landscape. By 2018, Rajan said the average selling price of industrial robot will be one-fifth of what it is today, but have five times the capacity. Drones are being used more for remote monitoring, surveillance, construction and delivery services in the Gulf. However, he said the deployment of commercial drones is plagued by regulations. Leading organizations in logistics, manufacturing, health, utilities and tourism are exploring the use of robotics. Use of humanoid robotics is emerging and 2017 could see the first signs of replacement of mainstream jobs by robots.

## African Mobile Subscriptions to Exceed 1 Billion; Data Revenue to Multiply

According to Ovum, which defines mobile broadband as mobile connections that are "based on 3G or more advanced technology", growth in new mobile subscriptions is "slowing", although the average rate of mobile penetration in Africa was 79% at the end of last June. Mobile voice revenue on the continent is set to decline over the five years to 2021, Ovum said. However, data connections as well as data and digital service revenue, "will drive the next phase of growth in Africa's telecoms market", Ovum said. The company forecasts the take-up of mobile broadband "will rise strongly, as operators continue to roll out 3G and 4G LTE networks and as Smartphones become increasingly affordable". "There will be one billion mobile broadband connections in Africa in 2021, including 157.4 million 4G LTE connections," according to Ovum's projections. "Additionally, the number of Smartphone connections on the continent will reach 929.9 million at the end of 2021. And non-SMS mobile data revenue in Africa will rise from $6.40bn in 2015 to $27.56bn in 2021, a compound annual growth rate of 27.6%." Ovum said the number of fixed broadband connections in Africa is also expected to increase significantly over the coming years, "albeit from a very low base, from 13.78 million at the end of 2016 to 19.97m at the end of 2021". "The number of fibre and fixed LTE connections will increase sharply over the next five years, but DSL will remain the dominant fixed broadband technology on the continent, accounting for 70.7% of African fixed broadband connections in 2021." Ovum's Broadband Development Index (BDI) measures and ranks countries and regions according to their adoption of high-speed broadband. Each country or region is awarded a score out of 500 for its mobile broadband development, and a score out of 500 for its fixed broadband development, to give a combined BDI score out of 1,000. Telecoms law expert Diane Mullenex of Pinsent Masons, the law firm behind Out-Law.com, said: "Accelerated mobile penetration in Africa has paved the way for businesses to reach customers through apps and m-commerce. However, there are lessons to be learnt from other countries such as India, where mobile ownership increased but in-app spending and app purchases remained low." "The majority of

mobile users in Africa have 2G handsets and so businesses should concentrate their efforts on ensuring that apps are data-efficient and compatible," Mullenex said. "Meanwhile, in the financial services industry, retail banking is projected to grow at a compound annual rate of 15% until 2020 in sub-Saharan Africa. Therefore, banks should position themselves to roll out mobile banking across the region." Earlier this year, technology research and consulting services firm the International Data Corporation (IDC) said spending on information and communications technology (ICT) in South Africa is projected to exceed $26bn in 2016, as organizations "increasingly embrace digital transformation initiatives in a bid to streamline their costs and bolster their flexibility". The IDC said "the emergence of the internet of things (IoT) ecosystem... is a key facet of the digital transformation revolution beginning to take place in South Africa". A report published last year by The Boston Consulting Group said sub-Saharan Africa is adopting mobile financial services "at a pace seen in few other places, presenting banks and mobile-network operators with a set of strategic choices that will go a long way toward determining their success in the region". According to the report, the value of the region's mobile money market could grow to $1.5bn over the next four years as Africa's 'unbanked' use their phones for a variety of financial transactions.

## Agreement Signed to Develop a STEM Mobile Laboratory

Qatar University (QU) signed an agreement with the Ministry of Education and Higher Education (MEHE), Mowasalat, and Dolphin Energy aimed at developing a Science, Technology, Engineering and Mathematics (STEM) mobile laboratory. A part of the 'STEM on wheels project,' the first of its kind in the region mobile laboratory will bring real-life and daily STEM experiences to students and educators, QU said in a statement. The project aims to motivate students and encourage them to explore out-of-the-classroom STEM experiences through a contemporary learning approach that adopts new applications and serves the school curriculum. "QU is proud to be part of this state-of-the-art project that will promote quality education within high schools in Qatar while reinforcing relations between the partnering institutions," QU president Dr. Hassan al-Derham said. The agreement was signed by Dr. al-Derham, MEHE Undersecretary Rabea Mohamed al-Kaabi, Mowasalat Managing Director Khalid Nasser al-Hail, and Dolphin Energy Qatar General Manager Hassan al-Emadi. Dolphin Energy Government and Public Relations Director Ajlan al-Enazi was present. As part of the agreement, Mowasalat will provide a bus with Dolphin Energy sponsoring its interior and the needed equipment for the STEM technology. MEHE will create a comprehensive plan for the bus trips to schools, including those in rural areas. QU engineering students will design the bus interior and provide technological applications and equipment. Al-Kaabi said the project makes a complete connection between general education and higher education institutions in a creative way. "It helps students make use of such techniques, which enables them to become the scientists of the future in the area of STEM," the Minister added. The event also saw a signing of a memorandum of understanding (MoU) between Qatar Transportation and Traffic Safety Centre (QTTSC) and Mowasalat at QU's College of Engineering to collaborate on new research and consulting programmes that will be used for studies on traffic safety in Qatar. Mowasalat's Karwa Driving School will offer exclusive and various training programmes accredited and certified by global institutions. It will also provide information and statistics to support the projects while QTTSC will handle the projects. CENG Dean Dr. Khalifa al-Khalifa said such collaborations highlight their commitment to developing partnerships with private and government organizations aimed at investing in research and development, and promoting STEM education among high-school students.

# Omantel says Going Ahead with Pakistan WorldCall Sale

Telecommunications Co (Omantel) is going ahead with a plan to sell its controlling stake in Pakistan's WorldCall Telecom, the Omani operator's chief executive Talal al-Mamari told Reuters. Omantel took a 56.8 percent stake in the diversified operator in 2008. The $193 million deal was its biggest foreign investment at the time. The Omani firm "has accepted the offer we received to sell our shares in WorldCall. But the deal is still in the process of fulfilling different requirements," Mamari said without elaborating. In September, WorldCall told the Pakistan Stock Exchange that it intends to buy back its shares from Omantel. It did not disclose a price; its share price last closed at 2.81 rupees in the Pakistani market, down from around 17 rupees in February 2008, when Omantel's acquisition was announced.

# SES and MADA Team Up to Provide Internet Connectivity in South Sudan

Satellite operator SES has announced a multi-year agreement with MADA to provide services to an ISP and mobile network operator (MNO) in South Sudan's capital city, Juba. The contract between the two companies commenced on 28 October 2016 and involved MADA signing up for service on the SES-5 satellite. The service will be linked through SES Betzdorf teleport facilities, a tier 1 internet provider with a 115Mbps internet capacity. Chief Commercial Officer at SES, Ferdinand Kayser said: 'This deal will enable end users to have internet connectivity, communicate across social media platforms and stay connected to the digital world, thus, bridging the digital divide. With this new deal, SES is able to bring internet connectivity to MADA's customers where terrestrial infrastructure is currently non-existent.'

# Competition in Market Benefitting Telecom Users in Pakistan

The healthy competition in telecom sector has consolidated market where shares of different operators changed significantly and helped record reduction in mobile phone call charges, ultimately benefitting the subscribers. As mandated under the Act, Pakistan Telecommunication Authority (PTA) is playing active role to maintain healthy competition in different segments of telecom sector while safeguarding interests of consumers and investors. The market consolidation has now moved towards mergers and acquisitions where only competitive operators will be able to survive in future. A latest report of regulator on Monday revealed that due to Mobile Number Portability (MNP), customers can easily switch from one operator to other according to their best suitable tariffs and packages. These developments in market have resulted into reasonable market shares of individual Cellular Mobile Operators (CMOs). The report said the effective price of cellular mobile calls has witnessed a substantial reduction to Rs 0.60 per minute in Pakistan during 2015 which about Rs 1.68 per minute five years back. The price per minute of cellular mobile call in the country is now almost one third of the price in 2010-11. Cellular Mobile Operators are offering one of the lowest mobile call charges in the world and the affordability of services has contributed to phenomenal growth in mobile adoption. All CMOs are involved in aggressive marketing campaigns and promotions. Therefore, the cellular mobile segment needs a thorough review so that financial viability and health of the segment can be assured. The CMOs are offering two to five standard prepaid packages with pulse durations of one second, 20 second, 30 seconds and 60 seconds. The operators are offering aggressive promotions which include unlimited on-net calls as well as free calls to off-net mobile and fixed-line networks.

# French Orange to Own Morocco's Meditel by 2017

Morocco's second largest telecom provider, Meditel, will surrender total ownership to French telecom operator Orange before the current year is over. Bruno Mettling, Deputy Director in Charge of Orange Group's interests in Africa and the Middle East, said, "I followed all process details to transform Meditel into Orange, which will be operated [across Morocco] at the same high level of quality of Meditel." He went on to say, "Morocco has succeeded in the field of mobile phone, [However], its market needs to apply this success to the landline field as well." In 2010 Orange already acquired 40 percent of Meditel for 640 million Euros. Following the purchase, it estimated this 40 percent share to be valued at 320 million Euros in its financial statements. Mettling continued saying, "This step paved the way logically that a year later we can ask the question of re-branding Meditel." Just last year French weekly magazine, L'Express reported that Orange was prepared to pay a little more than 72 million Euros to take control of Meditel. Before the purchase is finalized, however, Moroccan telecom regulator ANRT will have to give the green light for the takeover. Orange has large scale plans to expand its service across Africa. In 2015, its number of subscribers reached approximately 100 million in Egypt, Morocco, Tunisia, Senegal and Mali among other countries, accounting for nearly 10 per cent of group sales last year.

# Pakistan is Most Affordable Country for Telecom and Internet Services in the World: Report

Pakistan has been ranked as most affordable market in the world for ICT services, noted Global Information Technology Report 2016, published by Word Economic Forum. "Pakistan is the market with the lowest price points", noted the report that measured network readiness index of 139 global markets. Report said that while these affordability indicators are measured in terms of prices associated with the usage of ICT service and the prices that poses the entry barrier for the masses, they are not in any way associated with quality adjusted prices. Here are other rankings for Pakistan for various indicators in "Network Readiness Index"

Over All Network Readiness Index

- 2016 Ranking: 110
- 2015 Ranking: 112
- Political and Regulatory Environment: 128
- Business and Innovation Environment: 98
- Infrastructure: 126
- Affordability: 1
- Skills: 127
- Individual Usage: 123


- Business Usage: 101
- Government Usage: 103
- Economic Impacts: 105
- Social Impacts: 106

While Pakistan's overall rank increased by 2 points for "Network Readiness Index", clearly it is lacking behind in almost all indicators other than affordability, where it ranked at top. Pakistan is ranked dangerously low for "Political and Regulatory Environment", "Skills" and "Infrastructure". Individual usage of ICT services is also low where Pakistan was ranked at 123rd position globally.

# Orange Egypt to get €500m Loan from Parent for 4G License

Telecommunications firm Orange Egypt has agreed on a €500 million ($553 million; Dh2.04 billion) loan from its parent company to cover the cost of a licence that will let it operate fourth-generation mobile phone services, the company said on Monday. The loan matures in December 2020 and will have an interest rate of 7 per cent, the statement said. Orange Egypt is a subsidiary of French group Orange.

# Kuwait Gulfsat, Palestine's Palsat Renew TV Broadcast Cooperation Pact

Gulfsat Communications Co (Gulfsat), a leading specialist in providing telecommunications services, TV broadcast and satellite rebroadcast company, announced the renewal of the cooperation agreement for a two-year term with Palsat, a subsidiary of the Palestinian TV & Radio Broadcasting Corporation in charge of the Palestinian TV cable channels. This step comes within the framework of renewing trust and partnership between the two sides, which began two years ago. It is also reaffirms the essential role played by Gulfsat as the third largest satellite operator and the leading specialized provider of broadcasting and re-broadcasting services in the region. The agreement was signed by Public Authority for Radio and Television General Supervisor and Palsat's Acting Board Chairman, Ahmed Assaf, and Gulfsat Chairman and Chief Executive Officer Mohammed Al-Haj. The ceremony was attended by top executives from both sides. After signing the agreement, Ahmed Assaf said: "We are delighted to announce this renewed cooperation, which began two years ago Palsat, owned by the General Authority for Radio & TV, and Gulfsat." Assaf pointed out that the agreement and cooperation renewal between the two sides serves as a confirmation of the Palestinian National Authority institutions' confidence in Gulfsat and the quality of its services. This has enabled Palsat to annex most of the Palestinian satellite channels, provide TV cable services to 11 Palestinian channels, in addition to a group of radio stations via a uniform frequency for the Palestinian bouquet (Palsat). Assaf added that the renewed agreement, designed to enhance cooperation, represents a future outlook and convenient opportunity to examine the latest services offered by Gulfsat. This includes the secured communications services that featured an unprecedented interest in the past few years, and can be used between the Palestinian Authority's institutions and embassies of the Palestine State abroad. Mr. Assaf praised the advanced infrastructure owned by Gulfsat, and the wide broadcasting package services and communications offered across the region and worldwide, which will open great prospects of cooperation between the two sides in the future. On his part, Gulfsat Chairman and CEO, Mohammed Al-Haj said: "The agreement referred to, which came into effect two years ago in favor of Palsat, aimed to provide a specialized bouquet in all Palestinian TV channels, both of the government and the private sectors." Al-Haj outlined some technical and functional advantages related to this package provided by Gulfsat, including free jamming, as well as media content transmission over fiberoptics from Ramallah to the assembly plant (Aggregation Point) of Gulfsat, based in London, then to Rambouillet station in Paris in order to rebroadcast to the Middle East and North Africa, over an orbit course of 7 and 8 degrees neighboring to the Nilesat. Al-Haj added that the agreement renewal is of great importance, reaffirming the strategic partnership that links Gulfsat to the Palestinian National Authority and its affiliates in both public and private sectors. It opens a wider range of possibilities in providing other parallel services added to the satellite broadcast and media, including secured communications services, while supporting the company's operational activities and enhancing future revenues at the same time. The signing of the agreement represented an opportunity for Gulfsat to shed light on its strategy, aimed at providing the latest technology and services, which enjoy a high level of safety. In this context, Gulfsat Chairman Mohammed Al-Haj pointed out that the secured communications maintain great importance and interest to the company. He noted that Gulfsat had already launched services in this field four years ago, aiming to provide the highest levels of protection both for the provider and the viewer in facing deliberate obfuscation, explaining that such services have opened the door to several TV organizations to cooperate with Gulfsat and take advantage of packages with safe capacities. Al-Haj added that the company is keen to keep up with the field's latest communications and satellite broadcasting services, in line with qualitative developments promoted in this area. This has recently been translated through launching a Cloud Content Delivery Service for TV broadcast (CloudBro) based on providing TV broadcasting channel services relying on Gulfsat's advanced infrastructure, and provided by the Cloud Content Delivery Service. With regard to the geographic trends that the management focuses on, Al-Haj explained that Gulfsat is currently concentrating on promoting services in North Africa and African countries in general, given the fact that these markets offer great opportunities of growth with regard to TV broadcasting services. He stressed the importance of the central role played by the company, through its five broadcast stations where the main station is located in Umm Al-Haiman (Kuwait), and the others in Cyprus, Slovenia and New York, in

addition to their centre stations in London, not to mention cooperation with more than 37 countries around the world and being the third largest satellite operator in the region. In addition to Ahmed Assaf, the meeting was attended on the Palestinian side, by Ambassador Rami Tahboub, Palsat Vice- Chairman Mazen Hamarsheh, Palsat Board Member Mahmoud Salama, Ahmed Al-Sabah, Khaled Sukar and Ahmed Barahmeh. Representing Gulfsat was the Chairman and CEO Mohammed Al-Haj, Commercial and Sales Director Dr Reyad Doughlas, Alaa Al- Banna, Rabih Salim, Sabah Al-Sultan and Antoine Bechara. At the end of the ceremony, the two sides exchanged commemorative plaques to mark the occasion.

# MoIT Pakistan Holds Event for Consultation on National IT Policy

MoIT has successfully conducted a final "Stakeholders Consultation" event to review the draft National IT Policy in Islamabad. It was an interactive session where salient features of this proposed policy document were discussed extensively. Minister of State for IT & Telecom Mrs. Anusha Rehman while chairing the event stated that this policy document won't deliver desired results until & unless it is not endorsed by the Industry and other stakeholders. She said that in last few years, the world has witnessed a phenomenal growth in our IT Sector due to our appropriate policy measures and strenuous efforts. Therefore, we earned four international recognitions which speak volume of our inclination & determination to bring an IT revolution in the country. The Minister said that our government gives highest priority to the Information and Communications Technology (ICT) sector, particularly IT exports, e-Governance entrepreneurship and innovation, in order to create an accelerated digitization ecosystem to expand our knowledge based economy. Therefore, we want to bring a comprehensive new IT policy which could ensure creation of a holistic digital ecosystem with other wide-ranging objectives like promoting innovation and entrepreneurship, infrastructure development, increase in IT exports, legislative measures to safeguard software industry, enabling e-Commerce environment, and Empowerment of Persons with Disabilities (PWDs) for IT accessibility. Anusha Rehman while sharing some key initiatives of her Ministry with participants stated that under "ICT for Girls" project we are establishing 150 computer labs in women empowerment centers to enable our marginalized girls to learn latest computer skills of coding and computing. Establishment of first state of the art "IT Park" in Islamabad is in the offing. Loan agreement with Korean Exim Bank will be signed within this year and two more IT parks will be built in Lahore and Karachi very soon. In our e-office replication module, we have trained five thousand government officials through NITB. Our IT export has crossed 2.7 billion and we have targeted to take it up to six billion in next 2 years. She stressed upon the Industry to bring their foreign remittances under specific State Bank's six digit code so that an accurate picture of our voluminous IT export could be reflected in State Bank's record too. The Ministry, in continuation of its efforts of inclusivity & outreach to all relevant stakeholders, further deliberated this draft document in multiple focused group sessions with researchers from prime academic institutions, high ranking IT experts, civil society, experienced government decision makers, digital & Internet service providers as well as other associated stakeholders. The key features of the new National IT Policy document are Sectoral digitization, Big data, data analytics, entrepreneurship, Internet of Things (IoT), e-Commerce, e-agriculture, software export. It is expected that the National IT Policy 2016 will be submitted to ECC within the next 6 weeks for its approval. The Secretary IT, Chairman PASHA, Chairman PTA, CEOs of IT Industry, Member (IT) other Senior Government Officials, Moderators, Working Group Members and other dignitaries were also present at this auspicious gathering.

# Telecom Contribution to National Exchequer Increases from Rs. 126.3 Billion to Rs. 157.8 Billion in FY 2015-16

Telecom contribution to National Exchequer has increased from Rs. 126.3 billion during FY 2014-15 to Rs. 157.8 billion in FY 2015-16. According to the Annual Report for the year 2015-16 issued by Pakistan Telecommunication Authority (PTA), unprecedented collection during FY 2013-14 mainly due to PTA's extraordinary deposits as a result of 3G and 4G spectrum auction. Moreover, if we compare the growth in telecom revenue vs. telecom contribution to National Exchequer over the last fiscal year, it becomes clear that the Government collections have actually increased by 25% whereas telecom revenues have increased by only 1.47% during the FY 2015-16. The PTA report further says that in the reported period telecom sector continued to grow positively in terms of subscription, revenues and teledensity. Broadband penetration has increased to 18.3% from just 2% in the year 2014. ICT solutions, being offered on mobile broadband, are making a big difference in every walk of life. Hundreds of billions of rupees are being sent and received over the mobile money channels by the people of Pakistan. In FY 2015-16, the amount transacted through the Mobile Banking was Rs. 1,492 billion. Innovative and cost-effective solutions are being offered in the e-commerce, online education, e-health, travel and governance sectors. Due to such high demand for mobile broadband services, Telenor Pakistan acquired 4G spectrum for US $395 million during 2015-16. Furthermore, the Government collections will also increase from the other sectors of the economy due to broadband and ICT proliferation. It may be further added that one component of the overall Government collections i.e. GST was decreased but there could be a number of factors behind this decline. For example, the Federal Government and the Government of Punjab have exempted GST on internet/data services whereas the Government of Sindh is charging reduced rate on internet/data services. Resultantly, the share of tax-exempted data revenue in the total telecom revenues increased to 29% in 2015-16 as compared to 19.3% in FY 2013-14.

# Auction of DTH Licenses in Pakistan to Take Place this Week

Auction of Direct-To-Home (DTH) licenses was held as per schedule on Nov 23. The decision for the Auction of DTH Licenses was made in a meeting which was presided over by Federal Minister for Finance, and attended by Pakistan Broadcasters Association (PBA) Chairman, Pakistan Electronic Media Regulatory Authority (PEMRA) Chairman and representatives of cable operators at 90-Shahrah-e-Quaid-i-Azam. Successful bidder would start its operation from November 1, 2017. Moreover, the five percent of gross revenue advertisement, which the cable operators used to deposit to PEMRA, has been reduced to two percent from January 1, 2017. It was also decided in the meeting that recommendation would be made to the prime minister that a high-level committee be formed to review the matters of PBA and cable operators. The committee should include PEMRA, PBA, cable operators and other stakeholders. This committee would present its recommendations to the PM.

# Ooredoo Group Reports 4% Net Profit Rise on Flat Revenue in 9M 2016

Qatar-based Ooredoo Group has announced its results for the nine months ended September 30, 2016, posting consolidated revenue of QAR24.266 billion (USD6.658 billion), up marginally from QAR24.196 billion in 9M 2015. EBITDA grew by 1% year-on-year to QAR10.156 billion, raising the EBITDA margin by one percentage point to 42%, whilst net profit attributable to Ooredoo shareholders improved by 4% in the nine-month period to QAR1.832 billion. Consolidated customers (predominantly mobile) saw healthy growth of 16% year-on-year to reach 133 million at end-September 2016, driven by strong growth in Indonesia, Myanmar, Oman, Iraq, Tunisia, Algeria, Maldives and Palestine. Ooredoo noted that it saw revenue growth in the period in local currency terms in Qatar, Oman, Kuwait, Algeria, Maldives, Indonesia and Myanmar, and that excluding foreign exchange translation impact, consolidated turnover would have increased by 2%. Elsewhere, the group reported continued strong data growth from consumer and enterprise customers: data revenue increased to QAR9.4 billion in 9M16, or 39% of group revenue, with 4G development continuing apace, as Ooredoo Myanmar was the first to launch LTE services in that country in May 2016, whilst 4G rollout also began in Algeria shortly after the end of the period under review (October 2016). 4G networks are now operating in eight of Ooredoo's ten mobile markets. Group B2B revenue, meanwhile, reached 17% of group revenue or QAR4.1 billion in the nine months to September, reflecting Ooredoo's ongoing focus on investment in business customer services.

# Conflicting Digital Needs of GCC Users put Telecom Operators at Crossroads

The changing needs of digitally-active mobile users in the Gulf Cooperation Council (GCC) place telecom operators at crossroads, according to A T Kearney, a global consulting firm. Highlighting that the digital usage in the Gulf region is well above the European and US average; an A T Kearney report said the broad array of customer demands challenges the GCC telecom operators to make strategic choice With the GCC users opting to use apps for calls more frequently than their counterparts in Europe – 76% of the time versus 57% respectively – and nearly double the number using their phones for Internet usage compared to Europe; it said "there is a clear opportunity for the GCC operators to tap into." "Interestingly, the profile of mobile users in this region is different than what we see elsewhere. On the one hand, this region has some of the most avid digital users, and yet on the other hand, the users here are less likely than their peers in Europe and the US to make purchases via their phones", said Marc Biosca, A T Kearney partner and co-author of the report. Finding that the positive impact regional e-commerce will have on the demand for mobile Internet, A T Kearney's research found that, one-third of the GCC customers are willing to pay for faster Internet or a more holistic customer service. "This dovetails with the significant demand for pay-tv and video-on-demand in the region. Currently less than 16% of consumers have these services, but one-quarter of respondents said they plan to buy them in the future," it said. The research identified two main factors influencing the GCC users' choice among mobile providers: network quality (30%) and price (28%). Customer service, security, and sales experience rank far lower. Surprisingly, 20% of respondents said they'd be happy with no customer service at all. "Operators clearly have a choice to make...Telco operators are at a strategic crossroads and choices will need to be made," Biosca said. The key questions before the regional telecom giants are whether they ride the digital wave offering a high-speed quality network combined with digital offerings, or focus on delivering world-class, low-cost, no-frills connectivity services. They are currently trying to cover all the bases, but becoming a regional cost leader requires up to a 50% reduction in costs and is not compatible with a differentiated, high-quality digital service offering, according to the report.

# Sudan Sale Hits Etisalat Profits

United Arab Emirates (UAE)-based telecoms group Etisalat, which operates across 18 markets in the Middle East, Africa and Asia, has reported revenues of AED13.2 billion (USD3.6 billion) for the three months to the end of September, up 3% year-on-year. Sales in its domestic market were up 4% at AED7.5 billion, while its Maroc Telecom unit saw turnover grow 2% to AED3.3 billion. Net profit after federal royalty was flat at AED1.9 billion, though the firm said profits would have risen 16% if adjusted for the impact of the sale of Sudanese operator Canar in August. Profits for the first nine months of 2016 were up 9% y-o-y at AED6.2 billion. The group claimed 162 million subscribers at the end of September, without providing a like-for-like figure for twelve months earlier.


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# KINGDOM OF SAUDI ARABIA


## Leadership Prowess in ICT Development a Real Determinant of Success for Saudi Arabia

When SAMENA Council conducted its assessment of the Kingdom of Saudi Arabia's ICT policy and digitization levels for the period 2012 to 2013, with prospects of government efforts to accelerate digitization extending well into 2020, the Kingdom was transitioning toward becoming a regionally advanced digitization-driven nation. It was noteworthy to observe then the government of Saudi Arabia's prescience in recognizing ICTs as the future driver of socio-economics; a key factor that gave the Kingdom a top rank globally in terms of assigning importance of ICTs to government vision. It was physically realized formally in April this year in the form of Vision 2030. Only a handful of other governments within the SAMENA region can claim such a level of commitment to digital development.

Since then we have witnessed Saudi Arabia becoming home to one of the most liberalized telecoms markets within the SAMENA region, having demonstrated a strong will to leverage ICTs to facilitate broader sustainable economic growth. Substantial evidence shows that the Saudi government, through the Ministry of Communication and Information Technology (MCIT), and ICT infrastructure development companies, with Saudi Telecom Company at the forefront of communications infrastructure development in the Kingdom, have done much to make connectivity ubiquitous; to raise efficiency levels of services' infrastructure, welcome new competition, and to develop human capacity.

**Progress in ICT Development**

Following a sustained spree of ICT infrastructure development that continues, substantial steps have been taken to build technical training centers, where leading global technology providers provide training and educational workshops in the country via educational institutions and through independent technology events. To complement that, numerous e-learning platforms have been developed, to build local ICT skilled workforce, and to meet the fundamental requirements for successfully leading and concluding the Saudization process, initiated in its earliest form with the Fourth Development Plan (1985-1989).

**ICT Development Progress in Saudi Arabia**

Saudi Arabia is a country where even in 2014, 82 percent of villages, amounting to a population of over 4 million people, had been connected. The market now has a 180 percent mobile penetration rate, with 94 percent household internet access rate, and a 95 percent adult literacy rate. It is a large market where 4G have been active for over five years and where, according to a Google study in 2012, an average user was using 36 apps. Such rampant use of digital applications and resulting data consumption are in accordance with industry estimates: Mobile data users in Saudi Arabia are expected to consume 1.1 billion gigabytes of mobile bandwidth by 2017, representing a compound annual growth rate of 75% between 2013 and 2017. Notably, the Kingdom also has the highest per capita usage of YouTube, with 9 out of ten users consuming video content on handheld devices and nearly six out of ten doing so at least once a day.

**Current State of the Market**

In the World Economic Forum's 2016 Network Readiness Index, which assesses the factors, policies and institutions that enable a country to fully leverage information and communication technologies (ICTs) for increased competitiveness and well-being, Saudi Arabia ranked 33rd among 139 countries considered, and ranked third for mobile phone subscriptions. Similarly,

*"Saudi Arabia recognized the importance of the ICT sector at an early stage in the industry's development. Together with the Ministry, CITC has actively pursued the development of an environment aimed at encouraging investment and increasing the efficiency of the national economy. By privatizing the incumbent and increasing competitiveness through the liberalization of services and markets, encouraging open competition, the widespread deployment of advanced, high-quality ICT services has been seen across all parts of the Kingdom at affordable prices. Saudi Arabia's Vision 2030 enhances this through the identification of long-term goals, reflecting the strengths and capabilities of the Kingdom's ICT sector. One of its important goals is the nationwide digital transformation, with public-private partnerships driving innovative new business models and solutions in the Digital Economy.*

*The Kingdom's efforts in these respects over the past decade, and more recently, have amply demonstrated the success of such approaches, especially when coupled and underpinned by strong support from both government and the international investment community. My recommendation to other regulators is to encourage the development of synergies across the regulatory framework. This can accelerate the introduction of new technologies and services. The ability to support these trends within a tiered statutory structure is the key to success in digital development."*

**Governor of CITC**

according to the ITU's latest available ICT development index, a benchmark measure composed of 11 essential indicators and used to monitor and compare developments in ICT adoption among UN Member States overtime, the Kingdom ranked at 41; a significant improvement over the past rankings.

Driven by an intrinsic need to transform national socio-economics, the Kingdom's vision to realize a knowledge-based digital economy in Saudi Arabia is being effectively realized by Minister of the MCIT and Governor of the CITC, and is supported by advancements in communication technologies, which have so dramatically shaped the ICT and investment opportunity landscape in the market. Among such advancements introduced recently, Saudi Telecom's 1.5 Gbps offering on its LTE network, the fastest LTE data rates in MENA in the 5 GHz band, is most notable.

***The New Paradigm for Saudi Arabia***

The new Data Economy paradigm, which is quickly engulfing much of the Gulf Cooperation Council (GCC) region, has been shifting the region's reliance on oil to something more sustainable. Consequently, ICT has become the most dynamic component of ongoing investments, which, in 2015, reached almost US$32 billion in the Kingdom alone. At the end of 2016, this investment value, according to industry estimates, will have reached nearly US$36 billion, considering digital transformation initiatives are emerging across the Kingdom across the private and public sectors to meet cost and efficiency KPIs. Such high level of spending on ICT development is in perfect harmony with the goals laid down in Saudi Arabia's 9th Development Plan (2010–2015), which has established the aim to make the Kingdom a knowledge economy, able to keep pace with societal and knowledge development trends worldwide.

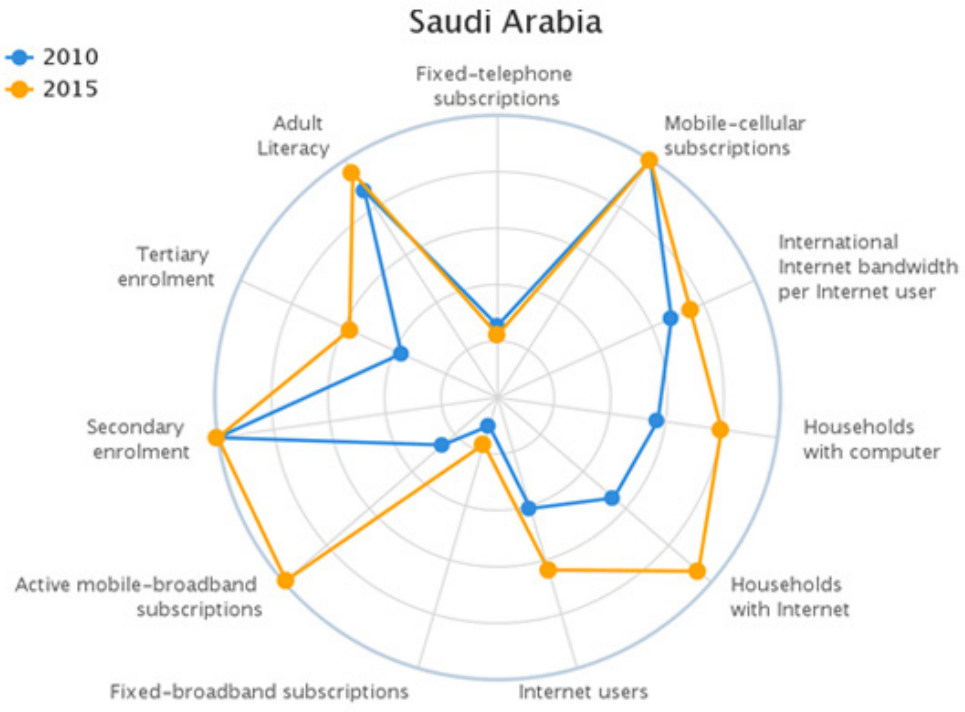
**Saudi ICT Market Size**

Transforming Saudi Arabia into a knowledge economy is a process that the leaderships of the MCIT and the CITC are streamlining and fortifying with the spirit of the national transformation plan, Vision 2030, which addresses policy needs from socio-economic perspectives and provides a long-term direction in which the government of Saudi Arabia wants to steer the country. In a country where both the population and the economy have expanded enormously over the years, combined with the national imperative of reducing reliance on mined natural resources, digital development and digitization are the best, if not the only, way forward. The recently launched billion-dollar Noon e-commerce business targeting the Saudi market, and eventually other populations in the Gulf region, with over 20 million diversified product offerings, reflects on the digital trends that are being embraced within the Saudi market with the proactive involvement of its government leadership.

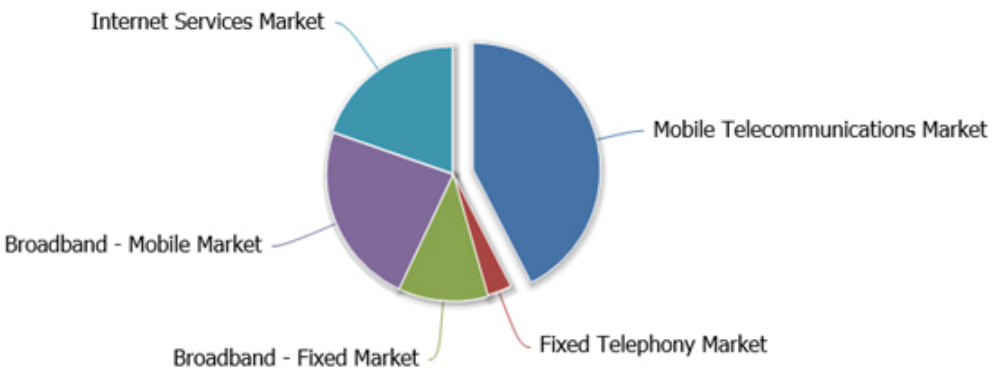
**MCIT and the Policy Leadership**

Realizing that Technology will be a key enabler in helping Saudi Arabia fulfill its long-term vision, Minister of the MCIT has reiterated the importance of diversifying the economy through digital development, which, for example, will help create new economic cities, fully supported by advanced infrastructure and citizen-centric services. Digital ubiquity and digital literacy, as driven by the MCIT's Home Computer Initiative, information and education via the spread of local content, and the e-Forms Initiative, are some of the focus areas of the Ministry. Under the policy leadership of the MCIT and proactive regulatory leadership of the CITC, unified ICT efforts by the two government bodies are enabling the creation of funding mechanism for the development and expansion of the ICT industry, incubation of new ICT projects, and are preparing the nation to benefit from e-commerce in a secure manner.

The Ministry is spearheading the Saudi government's momentum to digitize the society through the development of the ICT sector, and to lead the creation of incentives for the private sector to actively contribute on both digital development and national human resource and societal development. In support of liberalization of the ICT sector, rich with investment opportunities, provided through a predictable, clear, transparent, and non-discriminatory regulatory regime, the MCIT is leading the execution of Saudi Arabia's ICT human capital program, aiming to employ thousands of nationals over the next three years and substantially addressing the digital divide.




*ICT Development Progress in Saudi Arabia* [1]




*Current State of the Market*[2]

Among successes that the Saudi government has met on building the ICT ecosystem, fostering of and enabling the prevalence of local applications and online-content developers, which aim to target the tech-savvy young population, is significant. This focus on equipping the young population of Saudi Arabia, with more than 60% of the 31 million Saudis below the age of 30, is a major driver of new possibilities for new ICT and IT players and niche systems.

As a part of the government's aim to make Saudi Arabia a regional hub for trade and manufacturing, the MCIT has outlined large investment plans to build four new smart cities, including the King Abdullah Economic City (KAEC). Such cities will be built with modern infrastructure, using state-of-the-art communication and collaboration services, smart network solutions, M2M/IoT services, cloud-based facilities management services, and comprehensive business continuity and disaster recovery solutions. M2M/IoT solutions would be of particular use in Saudi Arabia, which witnesses pilgrimages of millions annually, and where analysis of human movement could contribute to better operations and security strategies.

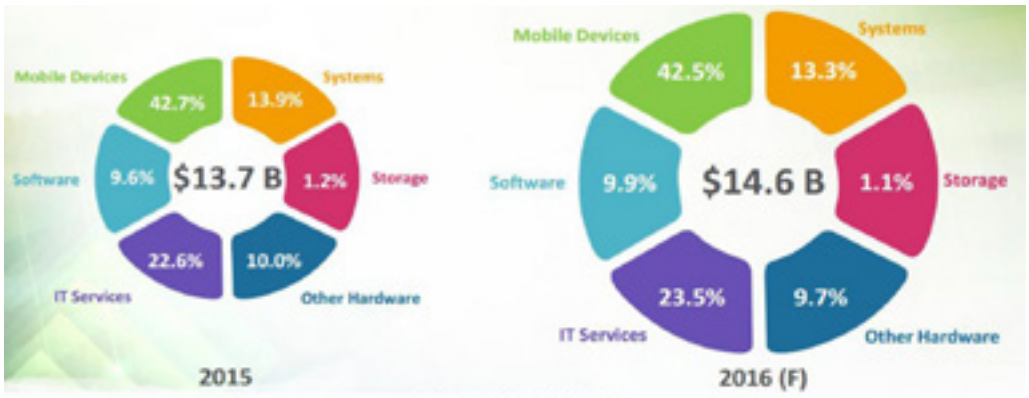
Through the CITC, the government is leading knowledge aggregation for future strategy development across all relevant fronts, including on the implementation of e-services across government agencies.

The CITC's 2014 Saudi Arabia ICT Workforce Skills Survey has provided the government with insights into tomorrow's need for specialized technical and managerial skills in Saudi Arabia. The assessment that, between 2015 and 2017, the greatest gap, in terms of availability and demand for ICT professionals, is expected to lie primarily within engineering, project management, administrative support, and technical support, has helped the government strategize accordingly, since, well into 2017, there could be a potential need for over 29,000 technically equipped human resources. This realization has become another driver of improvement in ICT investment levels, and is enhancing the competitiveness of the overall economy of the Kingdom.

Generally speaking, investment incentivization by the government is on the rise. A challenge, however, remains in improving and sustaining the levels of communication and coordination across various initiatives for the benefit of their intended recipients and in broader support of strengthening investments into ICT infrastructure, while achieving the goals set forth in Vision 2030.

**Looking Forward**

Digitization, smart city development, Saudi-centric national programs, a large liberalized market rife with competition, and a committed leadership, are the key characteristics that presently define Saudi Arabia as it progresses forward in a uniformly accelerated speed in digital development. The leading GCC nation's success in meeting its digital and socio-economic goals is certain, for the visionaries who are driving the Saudi national ICT plans have demonstrated openness to embrace change, intellectual agility to maneuver through challenges, and are executing the defined processes in alignment with the needs of their Nation as it readies itself to warmly embrace the expansive, sustainable digital future that awaits it.




*Saudi ICT Market Size*[3]

[1] ITU ICT Development Index 2015
[2] CITC Report for Telecom and Information Technology sector in the Kingdom by end of Q2 2016
[3] Data and image by IDC

# SATELLITE NEWS

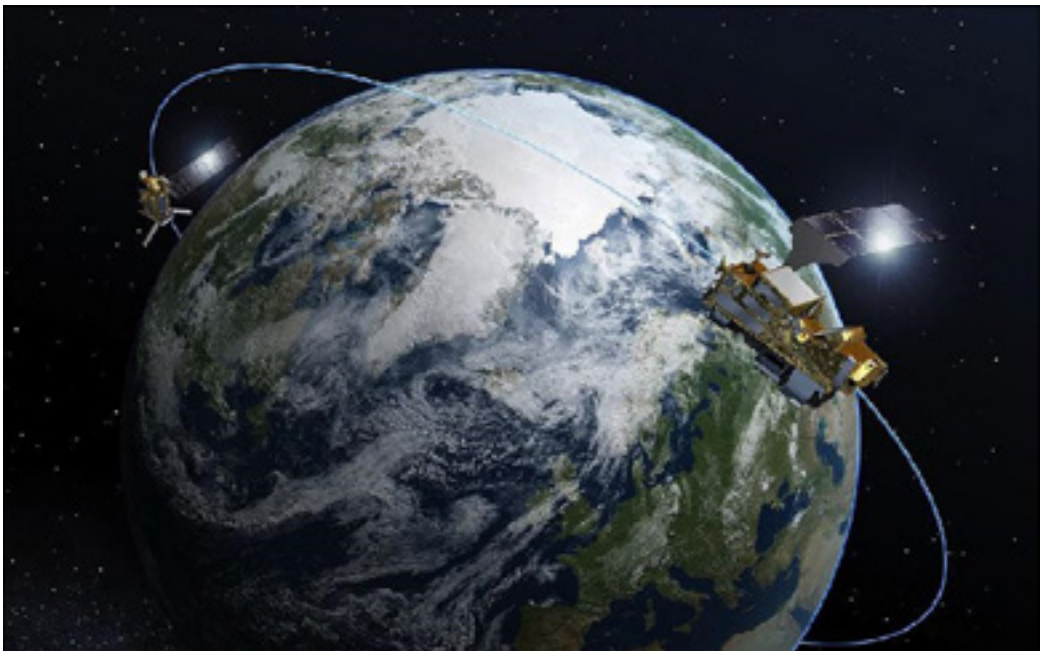
## Globalstar Solutions Monitor Fleets and Safeguard Oil Industry in Tunisia

Globalstar Europe Satellite Services, a wholly owned subsidiary of Globalstar, announced three contract wins in the North African oil industry. These new customers have chosen to deploy Integrated Vehicle Monitoring System (iVMS) from Tunisian Globalstar partner, Virtual Mobile Data (VMD). VMD worked with local technology partner Neuron Technology Systems (NTS) to design iVMS, which switches automatically to simplex satellite communications when the GSM network becomes unreliable or if a GPRS transmission fails for any reason. In VMD's most recent deployment, a Ukrainian oil services company is using 30 iVMS devices, which incorporate Globalstar's SmartOne B simplex tracker, to help its oil exploration and production customers monitor their vehicle fleets and safeguard staff across Tunisia. Early in 2016, a Tunisian civil works contractor, Kilani Enterprise for Public Works, deployed iVMS to track its fleet of 4×4 vehicles, for better fleet security and to help monitor driver behavior. iVMS gives Kilani Enterprise the precise location of its fleet as well as transmitting engine data which indicates driver performance such as sudden braking or unexpected acceleration. In a third recent iVMS deployment, VMD integrated SmartOne B transmitters with GPRS devices from another local reseller, MYCOM, for a Tunisian services company whose support for oil industry firms includes providing equipment, transportation, site maintenance and staff services. The company is using 56 iVMS devices to track transporters and containers carrying mechanical and oil rig equipment used in petroleum production and refining. VMD customized solutions for all three deployments by adding a one-touch SOS button onto the drivers' dashboards which alerts the respective companies' in-house security teams if anyone is in danger, requires emergency medical help or if the intervention of security forces is needed. iVMS integration with VMD's own partner platform enables security notifications to be sent via email, SMS or other means.

## Thuraya Launches Next Generation Satellite Handset

Mobile Satellite Services (MSS) operator Thuraya Telecommunications has launched what it claims as the world's first dual mode, dual Subscriber Identity Module (SIM) phone. The Thuraya XT-Pro Dual satellite phone aims to bridge the gap between satellite and terrestrial communications, allowing users to move in and out of terrestrial coverage, according to a statement released by the company. Thuraya's handset includes a dedicated SIM slot for satellite communications and a second one for GSM communications. Users can opt for a Thuraya SIM card and their GSM card, or select any combination of SIM cards that meets their requirements. Callers can be contacted on their GSM number even while on an active satellite call – and vice versa. The Thuraya XT-PRO DUAL features advanced navigation capabilities through GPS, BeiDou, Glonass and Galileo. Users can also share current coordinates, enter waypoints to navigate to specific positions using the electronic compass, and use position logging. The handset's advanced tracking capabilities offer three different options, based on preset time intervals, distance travelled, and detection of movement outside a preset geofence. The geofencing process uses any three to seven coordinates of the user's choice. For full and secure control, all tracking functions are user-activated, and cannot be initiated or controlled by unwelcome external entities. The Thuraya XT-PRO DUAL's battery delivers up to 11 hours of talk and 100 hours of standby time, according to the company. The device includes an SOS emergency button and features a ruggedized shockproof, water and dust resistant body, and glare resistant Gorilla glass display.

# CPI to Support New Generation of Meteorological Satellites



Airbus Defence and Space has awarded the Communications & Medical Products Division of Communications & Power Industries (CPI) an 8.7 million euro (approximately $9.5 million) to support a new generation of satellites that is expected to provide global advanced meteorological data from 2021 until after 2040. The Meteorological Operational Satellite – Second Generation (MetOp-SG) program is a collaboration between the European Space Agency (ESA) and the European Organization for the Exploitation of Meteorological Satellites (EUMETSAT) and consists of two series of satellites carrying complementary instruments. Under the contract, CPI will develop several engineering and flight models of 5.355 gigahertz Extended Interaction Klystrons (EIKs). CPI's EIKs are vital to the Scatterometer (SCA) radar instrument, creating the high-power microwaves required for the instrument to measure surface winds over the ocean. This information is expected to play an important role in numerical weather prediction, climate monitoring and the tracking of extreme weather events. In addition, the Scatterometer will provide data on soil moisture, snow cover, sea ice and other valuable environmental measures. Work on this program will take place at CPI's facilities in Georgetown, Ontario, Canada. CPI will deliver flight models beginning in 2019.

# Eutelsat, Broadpeak Partner for Mass OTT Delivery

Broadpeak, a provider of Content Delivery Network (CDN) technologies, and Eutelsat Communications are collaborating to offer content providers a satellite-based solution for multiscreen video delivery to connected devices. The new offer, SmartBeam, aims to extend access to video content on mobile devices beyond terrestrial networks and has a competitive edge for mass market delivery of Over-The-Top (OTT) services. SmartBeam is designed to enable broadcasters and pay-TV operators to leverage the ubiquitous coverage of satellites to broadcast video content in IP format, creating a network that is completely dedicated to IP-native terminals, including tablets and smartphones. SmartBeam works with any Wi-Fi-enabled device, supporting instant channel change, DRM security, and low latency. Broadpeak's nanoCDN product is the underlying streaming technology for SmartBeam. It allows operators and content providers to contain their bandwidth requirements to only a few megabits per second in order to multicast OTT services to millions of simultaneous devices. By effectively managing video consumption peaks that are not supported by terrestrial network infrastructure, nanoCD makes multiscreen satellite delivery scalable and more cost-effective for content providers, including key live sporting events that create surges in consumption.

# Mauritania's Mattel Signs VSAT Backhaul Deal with Eutelsat

Mauritanian cellco Mattel has signed a multi-year contract with GLOBAL Technologies and Eutelsat Communications for C-band capacity on the EUTELSAT 8 West B satellite. Mattel, a subsidiary of Tunisie Telecom, will use satellite backhaul links to deliver improved mobile internet access and service quality for its customers, particularly in areas without access to terrestrial networks. GLOBAL will be deploying VSAT equipment to connect Mattel's base stations, while Eutelsat will provide the satellite connectivity.

# ViaSat Acquires Arconics for Connected Aircraft Software and More

California-based provider of global broadband services, ViaSat, has announced a new agreement to acquire aviation software solutions provider Arconics. The acquisition comes following recent years where Arconics and ViaSat had partnerships focusing on serving the wireless In-flight Entertainment and Connectivity (IFEC) needs of multiple airline customers. The Arconics connected aircraft software platform enables the Arconics App Suite, which spans wireless In-flight Entertainment (IFE), Electronic Flight Bag (EFB), airline document management and cabin management solutions, to communicate and share data with the aircraft and, using available connectivity, to connect with ground systems across mobile or avionics platforms. According to ViaSat, "tens of thousands of pilots, ground staff and cabin crew members across five continents" are currently using Arconics software for cabin and cockpit related flight operations activities. Qatar Airways, Cathay Pacific, Ryanair, Aer Lingus and Tigerair Australia are among the commercial airlines currently using Arconics software. Post-acquisition, ViaSat expects to also offer airlines real-time insight, control and agility of aircraft and flight data with highly-integrated, highly-customizable aircraft operations tools that tap into the power of ViaSat's advanced high capacity Ka-band satellite network, which has more capacity in orbit than any other in-flight Wi-Fi provider. In connection with the acquisition, ViaSat establishes a presence in Dublin, Ireland, and will continue to build its operations in Sydney, Australia. More than 30 Arconics team members with both technical and business expertise will join ViaSat. The company expects the acquisition to "materially affect ViaSat non-[Generally Accepted Accounting Principles]GAAP earnings for fiscal year 2017."

# Globalstar Launches Stingr Satellite Chipset

Globalstar Europe Satellite Services, a wholly owned subsidiary of Globalstar, is launching Stingr into the Europe Middle East and Africa (EMEA) market this week at the Intermodal Europe 2016 event. Stingr integrates Globalstar's STX3 simplex satellite transmitter with a high-performance Global Positioning System (GPS) receiver and a dual band antenna, making it easy for Value Added Resellers (VARs) and Original Equipment Manufacturers (OEMs) to develop Internet of Things (IoT)-based solutions for remote sensing, tracking and monitoring of assets including rail cars, trucks and ships. The Globalstar simplex satellite network allows Stingr to provide an affordable way to transmit rich IoT data from small, low cost devices even when beyond the reach of mobile coverage. Stingr is about the size of an after-dinner mint, which gives VARs and OEMs the flexibility to easily integrate the module into a wide range of mobile asset tracking solutions for monitoring a broad array of items and cargo, including Liquid Petroleum Gas (LPG) tanks, rail cars, trucks and boats, even in the middle of the ocean. The STX3 chip increases the reliability of message delivery by transmitting each message at intervals so there is an increased likelihood of reaching multiple satellites.

# Vector, Atlas Look to Simplify Smallsat Launch and Tracking

Vector Space Systems, a micro-satellite launch company currently trialing 12-foot prototypes of the company's planned 42-foot launch vehicles, is now moving into tracking capabilities with the aim to bolster its launch profile and continue lowering the cost of launch for smallsat operators. Vector has partnered with Atlas Space Operations, a company that provides cloud-based solutions for space access, with the aim to diversify Vector's launch tracking capabilities and provide a space-to-ground communication network through Atlas' electronically steered array RF ground system, Links, by 2018. "Atlas has an approach to the technology behind the ground stations that makes them both powerful and portable, as well as configurable for a variety of uses. This allows Vector to use their existing and planned network of ground stations to track our launch vehicles from the launch site to orbit and recover telemetry from the launch vehicle and on-board satellite deployments without the need for expensive satellite based communications systems," Jim Cantrell, CEO and co-founder of Vector Space Systems, told Via Satellite. If Vector has special launch geometry, Atlas'

technology allows for temporary, low-cost deployments to recover vehicle telemetry, according to Cantrell. The company will also be offering these network services to their satellite customers as a package that can help smallsat companies access cost-effective ground networking technology. Cantrell is hoping Vector's technology and approach will help put the company at the forefront of supplying ground-network data traffic in the coming decade.

## Bangladesh Receives Bangabandhu-1 Satellite Replica in ITU Telecom World


The government received the replica of the Bangabandhu-1, country's first communication satellite, in the ITU Telecom World at Bangkok. Bangladesh, for the first time, is participating at the ITU Telecom World 2016. The event will continue till November 17 where Bangladesh will showcase Bangabandhu-1 Satellite's prospect to the world, said a senior official of the Bangladesh Telecommunication Regulatory Commission. The Bangabandhu-1 is scheduled to be launched in December 2017 with a cost of Tk 2,967 crore. Thales Alenia Space, a French aerospace manufacturer, is manufacturing the satellite. In the grand pavilion, the country's top mobile phone operators Grameenphone, Banglalink, Robi, Teletalk and two other Nationwide Telecommunication Transmission Network (NTTN) operators are also taking part with the regulator and the government.

## USAF Awards CACI $446 Million Contract for Satellite Network Control

The U.S. Air Force (USAF) has awarded CACI International a $446 million prime contract to provide operations, maintenance and sustainment of the U.S. Air Force Satellite Control Network (AFSCN). The single-award, seven-year contract represents new work for CACI, expanding the company's presence in its command and control market area. The Consolidated AFSCN Modifications, Maintenance, and Operations (CAMMO) contract combines three different efforts into a single, vertically integrated contract vehicle supporting the U.S. Air Force Space Command (AFSPC) Space and Missile Systems Center (SMC). SMC is responsible for on-orbit check-out, testing, sustainment, and maintenance of military satellite constellations and other Department of Defense (DoD) space systems. The contract will assist SMC in its mission to deliver resilient and affordable space capabilities by providing reliable launch, remote tracking station, and satellite control network operations, maintenance, and sustainment, to include software engineering. The CAMMO contract was initially proposed by L-3 National Security Solutions, which CACI acquired on Feb. 1, 2016, as part of its strategy to enhance CACI's position as a government solutions and services prime contractor.

## Telecom Egypt Commits to Intelsat VSAT Services

Telecom Egypt has reaffirmed its commitment to Intelsat satellite solutions to support communications services in the country. Under a multi-year agreement, Telecom Egypt, the country's incumbent telecommunications operator and the largest communication network in Egypt, will use connectivity provided by Intelsat 10-02, located at 1 degree west, to provide Very Small Aperture Terminal (VSAT) services for a network that connects multiple sites across Egypt.

# DubaiSat 2 Captures First Images of Full Dubai Water Canal

DubaiSat 2, owned and operated by the Mohammed bin Rashid Space Center (MBRSC), has captured high-definition photos of the Dubai Water Canal full of water. The photos show the new waterway flowing from Dubai Creek down towards the Arabian Gulf. The images also showcase the various facilities built to run along both banks of the canal and the areas surrounding it, which consist of residences, hotels and recreational centers. DubaiSat 2 provides high-quality satellite images to several institutions within the United Arab Emirates (UAE) and internationally, for urban planning and mapping, monitoring environmental changes and disaster management. The satellite's camera features a 1-meter panchromatic resolution and a 4-meter multi-spectral resolution for colored images. It can store 512 images, each 12 km x 12 km in size. The MBRSC launched DubaiSat 2 in 2013 via the Dnepr at Yasny Cosmodrome to circulate a sun-synchronous orbit, 600 km in altitude.

# Gilat Introduces GTP Acceleration for 'True' LTE Speeds

Gilat Satellite Networks says it is the first to deliver Layer 2 with GTP acceleration, which will provide true LTE speeds as well as operational efficiency for large-scale networks. Layer 2 functionality is now available for both cellular backhaul and corporate connectivity applications through Gilat. Gilat's patent-pending GTP acceleration techniques provide LTE performance of 150 Mbps to the handset, being on par with terrestrial performance. With this solution, Gilat says it is driving satellite cellular backhauling from the developing world to the developed world, and from rural areas to the metro-edge, and metro networks. Tier-1 Mobile Network Operators (MNOs) in the U.S., U.K. and Japan have already chosen the technique to extend network coverage and for public safety applications, thus aiming to propel satellite backhaul from a niche play to the mainstream.

# South Africa to Launch Nanosatellite from ISS as Part of European Research Project

SCS Aerospace Group will launch a nanosatellite designed and built in South Africa early next year from the International Space Station (ISS) as part of a European Commission research project. As part of the European Commission's QB50 project, the satellite will be launched from the space station during the first quarter of 2017 together with 40 satellites from other countries. With these satellites, the European Commission aims to conduct atmospheric research in the lower thermosphere between 200 km to 380 km altitude. The data collected from this experiment over a period of 18 months will be used to complement current atmospheric models used by operators in the space industry. Apart from conducting the European Commission's lower thermosphere experiments, the nanosatellite, called nSight1, which weighs 2.5 kg, will also test the company's newly developed SCS Gecko Imager as well as Nelson Mandela Metropolitan University's Radiation Mitigation VHDL Coding Technique during its six- to 18-month flight. "Almost all the systems and components on this satellite were manufactured and assembled within six months with South African partners," said Dr. Sias Mostert, chairman of the SCS Aerospace Group. Although SCS Space is the prime contractor for the satellite, other participants in the project include the Space Advisory Company, Stellenbosch University, CubeSpace, Cape Peninsula University of Technology, Nelson Mandela Metropolitan University, Pinkmatter Solutions, the Amateur Radio Society and NewSpace Systems.

# Cloud Constellation Details Satellite Information Ultra-Highway to Manage Data

Cloud Constellation Corp. has announced progress in establishing a space-based network of satellites for instant, secure data storage and transport across the globe with the aim to provide a mechanism for enterprises and governments to move large amounts of data quickly and securely. The company's SpaceBelt Information Ultra-Highway is a hybrid cloud that evolved as a way to protect and manage critical data on private, on-premises infrastructure and enable organizations to host customer-facing applications in the cloud. "As the internet becomes increasingly less secure, SpaceBelt will provide a safe haven for data, a place without interruption or exposure to any surreptitious elements or unintended network jurisdictions," said Scott Sobhani, Cloud Constellation CEO and co-founder.

# Vector, Atlas Develop New Satellite Ground Architecture

Vector Space Systems has finalized a strategic partnership agreement with Atlas Space Operations to integrate Atlas' network of capabilities into Vector Space Systems' existing product offerings, diversifying the company's launch tracking capabilities. As early as 2018, Vector Space Systems will be able to provide a space-to-ground communication network from the Galactic Sky division to its customers through Atlas Links, a mobile, rapidly deployable, and electronically steered array Radio Frequency (RF) ground system. Designed for communications with both Low-Earth Orbit (LEO) and deep space missions, and capable of rapid deployment, Atlas Links arrays will enable Vector Space Systems to simultaneously track signals over multiple frequencies, eliminating high civil engineering costs associated with the installation of other systems that require expensive antennas and pedestals. Satellite ground architecture and data services will support Vector Space Systems' launch operations from the ground and in-orbit, transforming satellite Telemetry Tracking and Command Systems (TT&C) and ground operations for space startups. Built around the Atlas Freedom Platform, Atlas' proprietary cloud-based solutions employ an advanced combination of Atlas-owned and cooperative antennas that provide customers with more affordable Ultra-High Frequency (UHF), S-, X-, and Ka-band coverage, as well as TT&C.

# Eutelsat Partners with BICS to Provide Business Continuity Solutions in Africa

BICS, a global wholesale carrier for voice, mobile data and capacity services, has announced the launch of its on-demand connectivity solution for African telecom operators, in partnership with Eutelsat. Using BICS' RouteFlex, the joint solution allows mobile operators and service providers to improve network availability and manage surges in bandwidth needs in challenging environments. The new solution offered by BICS and Eutelsat will enable telecom operators to offer their end users access to consistent, cost-effective and high-quality services at all times, even in the event of a terrestrial network outage. It achieves this by combining C-band capacity on the Eutelsat 8 West B satellite with the BICS' teleport in La Ciotat, France, its IP transit global network and an automated on-demand solution for IP traffic. The resulting service comes in three product variations: open community, closed community and occasional use.

# Iridium Releases New Satellite Aviation Services

Iridium Communications has released a new suite of aviation products and services, featuring Iridium Certus technology. The suite features products from four leading avionics manufacturers, which will deliver global broadband connectivity for cockpit and passenger communications. Scheduled to launch commercial service in 2017, Iridium Certus is the company's next-generation multi-service communications platform enabled by its new Iridium Next satellite constellation. After completion of the constellation, Iridium Certus will deliver speeds eventually reaching 1.4 Mbps, according to a statement released by the company.

# Honeywell to Offer Inmarsat Satellite In-Flight Broadband to Military Users

Honeywell has announced it will offer high-speed, high-bandwidth satellite communications capabilities for military use. Inmarsat's Global Xpress "satcom as a service" in-flight broadband service and Honeywell's JetWave satellite communications hardware work together to provide a consistent, high-speed, high-bandwidth connectivity experience for military users around the world, improving overall situational awareness and safety while allowing troops to communicate more effectively, the company announced. Honeywell recently achieved type approval from Inmarsat for JetWave aeronautical terminals, which enable access to the Global Xpress network and provide a more connected flying experience while over land or sea.

# NASA Sets Launch Date for First Smallsat Constellation

NASA is set to launch its first Earth science small satellite constellation, which will help improve hurricane intensity, track, and storm-surge forecasts, on Dec. 12 from Cape Canaveral Air Force Station in Florida. The Cyclone Global Navigation Satellite System (CYGNSS) hurricane mission will measure previously unknown details crucial to accurately understanding the formation and intensity of tropical cyclones and hurricanes. "As a constellation of eight spacecraft, CYGNSS will do what a single craft can't in terms of measuring surface wind speeds inside hurricanes and tropical cyclones at high time-resolution, to improve our ability to understand and predict how these deadly storms develop," said Thomas Zurbuchen, associate administrator for NASA's Science Mission Directorate at the agency's headquarters in Washington, D.C. NASA expects the CYGNSS mission to lead to more accurate weather forecasts of wind speeds and storm surges — the walls of water that do the most damage when hurricanes make landfall. Using the same GPS technology that allows drivers to navigate streets, CYGNSS will use a constellation of eight microsatellite observatories to measure the surface roughness of the world's oceans. Mission scientists will use the data collected to calculate surface wind speeds, providing a better picture of a storm's strength and intensity. Unlike existing operational weather satellites, CYGNSS can penetrate the heavy rain of a hurricane's eyewall to gather data about a storm's intense inner core.

# Spain's High-Speed Trains Get Connected with Gilat Satellite Broadband

Renfe Operadora (Renfe), Spain's state-owned railway company, has chosen Gilat Satellite Networks' satellite on-the-move technology to provide broadband internet on high-speed trains throughout the country. Renfe is currently engaged i n a major transformation and modernization project including an overhaul of its Information and Communications (ICT) technology systems. A key factor of the ICT overhaul is the provision of reliable and consistent broadband connectivity for internet usage on its fleet of high-speed trains. The project consists of nearly 100 trains, all of Renfe Automotrice Grande Vitesse (AGV) high-speed train fleet. Gilat's is now implementing its broadband connectivity for trains, with initial deployment planned for this quarter.

ARTICLE

# New Generation Networks Complete with OTT Services

Mobile broadband technologies are in a never ending phase of evolution. In fact, the momentum of evolution is getting faster every day, so we are able to see the change clearly in our daily lives. LTE is a major asset for not only all industries but also end users. Furthermore, countdown to 5G has started and within a few years the transition for 5G will complete.

The services, which run on that wireless highway is the key point for the users to appreciate the major role of mobile network technologies. At Turkcell, a converged communication and technology services player in Turkey and surrounding region, we have set our goals to develop new services and products which run on the mobile highway. Turkcell positioned itself not as a mobile operator but an integrated service provider with its services that include mobile-fixed voice, data and services.

**Turkcell positioned itself not as a mobile operator but an integrated service provider with its services that include mobile-fixed voice, data and services.**

Turkcell has set three pillars of the company's growth strategy: Growing as an integrated operator, taking its experience in Turkey to the countries where Turkcell Group operates and to the rest of the region, and increasing its global relevance through OTT products and services. We believe that telco operators are the right address

**Aysem Ertopuz**
Assistant General Manager,
Digital Services and Partnerships
Turkcell

TURKCELL

to supply OTT services since we are not only infrastructure providers, but also the players that have the most direct relationship with the customer, and the greatest awareness of customer needs. If the regulators provide a level playing field, telco operators can be more capable actors in managing these services.

Turkcell Group serves 66,7 million subscribers in nine countries, as of September 30, 2016. In our home country Turkey, we have acquired the largest spectrum at the tender held in August 2015, and started to offer LTE Advanced services starting from April 1, 2016. With our unique spectrum configuration and LTE-A technology, we offer Turkey's fastest mobile broadband. We also continue to invest in our fiber network, and are the market leader in FTTH. However, being a connectivity provider is not enough: Building on the synergy between our mobile and fixed networks, we offer innovative services including Turkcell TV+, our fast-growing TV platform. We reach millions of customers with our globally relevant services such as our IP-based communication platform BiP, music application fizy, contact and call management application UpCall and cloud solutions.

**Full experience of communication with innovative services**

Turkcell is aware of its responsibility to catch the opportunity to provide real, meaningful connectivity to its customers and become the platform through which they enjoy a full experience of communication.

BiP is a product developed entirely in Turkey and offers voice and video call options, group chat, and secret chat feature. It allows users to create and share internet memes, and comes with a wide range of "stickers" – humoristic cartoons designed specifically for the app.

As a social communication application, which has downloaded by more than 10 million people from 192 countries, BiP is now leading the way with its "Smart Fax" feature. With this feature, BiP enables fax transmission via an instant messaging application for the first time.

BiP combines the best qualities of a number of different communication applications, plus it comes with the support of a fully licensed operator. BiP is an example of the success that an OTT product can achieve when properly backed by a telecoms operator.

fizy is one of the favorite music applications in Turkey, that aims to provide music access for customers anytime, anywhere. The product offers playlists according to subscribers' mood, location, culture and age. Subscribers can reach hundreds of curated playlists that are composed of millions of tracks. Moreover, fizy serves offline listening feature to music lovers; so they can listen to their favorite music, newly released albums whenever and wherever they want, even there is no internet connection.

The latest product Turkcell has launched is UpCall, an application that changes the calling experience of the customers. UpCall is the evolution of your phone's native call screen: It combines many services in one interface and offering OTT and operator-specific services together. Besides, the product simplifies the call steps most of the time in a single step, on a single screen. With UpCall, when an unknown number calls you, you can see the caller name while your phone is ringing. You can add subject to your calls and you can communicate why you call the other party while the phone is ringing. You can create a group and call every member in the group at the same time in one click. For a 4-person conference call, 7 steps are required, whereas with UpCall you can make a group call in a single step. You can see the callers when your phone is off or busy or the contacts you could not reach becomes reachable. Furthermore, you can easily monitor call services notifications on UpCall instead of SMS. The feed cards help you to follow the important calls.

In the upcoming period, we will strengthen our leading position providing integrated communications and technology services in Turkey and the surrounding region with the support of our strong 4.5G and fiber network.

**Building on the synergy between our mobile and fixed networks, we offer innovative services including Turkcell TV+, our fast-growing TV platform. We reach millions of customers with our globally relevant services such as our IP-based communication platform BiP, music application fizy, contact and call management application UpCall and cloud solutions.**

**About Turkcell:**
Turkcell is a converged telecommunication and technology services provider, founded and headquartered in Turkey. It serves its customers with voice, data, TV and value-added consumer and enterprise services on mobile and fixed networks. Turkcell launched LTE services in its home country on April 1st , 2016, employing LTE-Advanced and 3 carrier aggregation technologies in 81 cities. In 2G and 3G, Turkcell's population coverage is at 99.75% and 95.26%, respectively, as of September 2016. It offers up to 1 Gbps fiber internet speed with its FTTH services. Turkcell Group companies serve 66.7 million subscribers in 9 countries – Turkey, Ukraine, Belarus, Northern Cyprus, Germany, Azerbaijan, Kazakhstan, Georgia, Moldova – as of September 30, 2016. Turkcell Group reported a TRY3.7 billion revenue in Q316 with total assets of TRY30.2 billion as of September 30, 2016. It has been listed on the NYSE and the BIST since July 2000, and is the only NYSE-listed company in Turkey.

# WHOLESALE NEWS

## Altan Wins Mexican Wholesale Tender as Sole Bidder

Mexico has awarded the tender for the country's national wholesale mobile network to Altan. Altan, which is a consortium with backers from China, the US and Mexico, was the sole remaining bidder for the tender after the Ministry of Communications and Transport disqualified the only other interested party. Morgan Stanley Infrastructure holds the largest stake in Altan (33%) with the China-Mexico Fund holding 23%. Other shareholders include Mexican TV operator Megacable, local operator Axtel, and Canadian pension fund Caisse du Depot et Placement du Quebec. The tender for the billion dollar network has met with numerous delays, most recently when the Ministry of Communications and Transport ruled out accepting a bid from another consortium (Rivada Networks and Spectrum Frontier) after it failed meet a deadline for providing a $52 million bid bond. The consortium is appealing against this decision in court. Having already accrued $750 million in investment, Altan is aiming to extend the network to 92% of Mexico's inhabitants over the next seven years. Mexico's government had previously estimated that 85% coverage would require $3.5 billion, while this figure would double to bring coverage up to 95%. Altan's would-be rival Rivada Networks expressed its distaste at Altan's win, with co-CEO Declan Ganley tweeting: "No surprise, Rivada's coverage plan is significantly higher than only opened bid. People of Mexico are being given a raw deal, which is sad." The winning bidder will have access to high quality 700MHz spectrum as part of its 20 year public-private partnership contract. The resulting 4G network will be leased out to operators, with the model aimed at reducing the clout of market leader America Movil.

## Vodafone, Telecom Egypt in Advanced Talks to Provide Domestic Roaming Services

Vodafone Egypt is currently in advanced talks with Telecom Egypt (TE) discussing preparations upon which the latter will start providing domestic roaming services, said Stefano Gastaut, CEO of Vodafone Egypt. During a press conference held today, Gastaut added that both Vodafone Egypt and TE will use fibre-optic networks to start providing 4G mobile and fixed line services. As for TE's 45 percent share in Vodafone Egypt, Gastaut added that only the parent company has the power to make any decisions about revising the current share. He also hinted that this share may be discussed in the very coming period of time.

## ACCC Releases Quarterly NBN Wholesale Market Report

The Australian Competition and Consumer Commission (ACCC) has published its quarterly National Broadband Network (NBN) Wholesale Market Indicators Report for the period ending 30 September 2016. nbn, the company overseeing the NBN project, is now supplying a total of 1.389 million wholesale broadband accesses, up by around a 250,000 quarter-on-quarter, with the most popular speed tier said to be the company's 25Mbps/5Mbps down/up option. Telstra, Optus, TPG and Vocus were reportedly the top four acquirers of NBN access services at the end of September 2016, with fixed line incumbent Telstra the largest of those on a national basis, having a wholesale market share of 49.7%. Commenting on the report, ACCC chairman Rod Sims noted: 'Telstra's market share of NBN access services in metropolitan areas is 43%, which is similar to its market share of traditional broadband technologies. In regional areas, where it has enjoyed much larger market shares, up to 90% in some areas, Telstra's market share of wholesale NBN access services is around 55%.'

Looking ahead, the ACCC has confirmed that NBN access services offered via HFC and satellite will be reported for the first time in the next quarterly publication.

# Omantel Wholesale Connects Africa to Asia with the G2A and SRG-1 Cable Systems

Omantel Wholesale, the world-leader in ultra-low latency networking, is interconnecting the Gulf to Africa (G2A) and Silk Road Gateway - 1 (SRG-1) cable systems to deliver ultra-low latency networking between Asia and Africa. The cable systems connect some of the fastest growing markets in the world with robust and geographically diverse terrestrial and undersea cable infrastructure. Omantel Wholesale has deployed these cable systems to create new ultra-low latency route options for customers and offer global connectivity in these rapidly developing regions. It is supporting the economic growth of Central Asia and Africa while finding new ways to connect end users around the globe. SRG-1 connects Oman to Pakistan with onwards connectivity to Afghanistan, China, Iran, Turkmenistan and Tajikistan. G2A connects Oman to Somalia via two redundant landing stations in Puntland (Bosaso) and Somaliland (Berbera). The system provides onward connectivity to Ethiopia and will connect Kenya, Mogadishu and South Africa in later phases. "We are the only provider in the world that is able to offer rapid access between Asia and Africa via geographically diverse routes. The development and interconnection of G2A and SRG-1 demonstrates our commitment to delivering ultra-low latency networking in unique and challenging markets. We are supporting the growth of trade between China and Africa with new diversity and high performance networks," said Talal Said AL Mamari , CEO of Omantel. G2A and SRG-1 add to Omantel Wholesale's more than 20 undersea cable investments. They support its vision for ultra-low latency networking, leveraging Oman as a natural meeting point for global cable systems. Oman is one of the most connected places on earth with five redundant landing stations and four terrestrial networks connecting it via border crossings. "Users in high-growth markets in Central Asia and Africa gain access to global connectivity. End users will experience more robust and reliable communications services, accelerating local development and support the growth of their digital economies," said Sohail Qadir, Vice President, Omantel Wholesale. "We're excited to be a part of delivering greater connectivity to these regions and changing how they experience mobile, broadband and other communications services. This is a big step forward." Omantel Wholesale already provides a unique high-speed link between Singapore and Frankfurt with only 160ms via the Bay of Europe Persian Express Gateway (EPEG) and Bengal Gateway (BBG) cable systems. It is the only operator with two landing stations in two different countries on the Asia Africa Europe – 1 (AAE-1) cable systems (Marseille, France and Muscat, Oman).

# UK MPs Call for Roaming, Fines to Improve Mobile Coverage

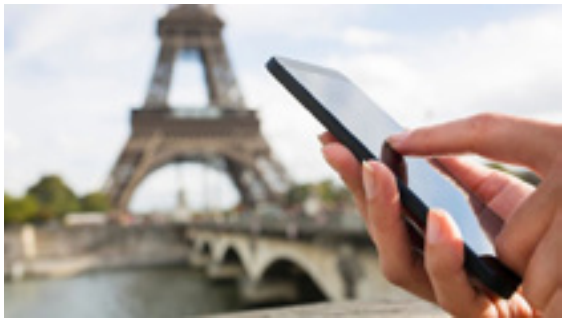
A group of UK MPs has published a report calling on the government to do more to end mobile 'not spots' in the country. Their report calls for measures such as fines for operators not meeting coverage targets and national roaming to improve coverage for end-users. The report by the 'British Infrastructure Group' of MPs found that a third of mobile users, or 17 million people, across the UK report poor or no reception at home, while as many as 28 percent of rural spots in the country also lack coverage. The MPs want the government to request information from mobile operators by December on what they are doing to ensure a promise that the UK has at least 90 percent geographic voice coverage by 2017. They also want the government to enforce an industry agreement from 2014 on improving coverage, which the MPs say has failed to delivery fully. The MNOs committed to investing GBP 5 billion to improve mobile coverage across the UK by 2017. The MPs want Ofcom to be allowed to fine the MNOs if they don't meet their commitments in the agreement by the end of 2017. They also want the regulator to be able to enforce a minimum standard of service quality. If operators don't meet this, customers should be allowed to cancel their contracts without penalty. In terms of national roaming, the MPs see a need for making this possible in areas without sufficient coverage. They noted that visitors to the UK often receive better coverage than residents, as they are allowed to roam across multiple networks. The report called on the government to look at requiring roaming in 'macro not spots' around the country.

# Back to the Future: MTS Reintroduces Intra-net National Roaming Charges

Russia's Mobile TeleSystems (MTS) has reintroduced a form of national roaming charge for its subscribers on certain tariffs who use the MTS network outside of their home region (oblast), reports Tdaily. From October 25 MTS customers eligible for the charge must pay RUB15 (USD0.24) per day for using their mobile phone in other oblasts, a strategy which Tdaily refers to as reverting 'back to the 1990s'. For subscribers intending to 'roam nationally' for seven days or more in a given month, MTS is offering the option of a monthly RUB100 flat fee.

# Pressure Grows for UK Operators to Offer National Roaming

Operators in the UK must allow consumers to roam between different networks in the country, and should face fines for failing to improve mobile coverage, urged a group of MPs in a new report. The British Infrastructure Group (BIG), made up of almost 90 MPs, ran an investigation into how the government can improve mobile coverage for "millions of UK customers who receive inadequate service", and urged a number of sweeping reforms. The group said it was "absurd" that UK customers were stuck with a single provider, while those visiting the country received better and broader mobile coverage because foreign SIM cards enable roaming across national networks. According to its findings, on average, British mobile users can only access 4G coverage 53 per cent of the time, while 17 million customers had poor reception at home. It also said 525 areas had non-existent coverage. "National roaming provides a solution to eliminating partial 'not spots' by enabling mobile consumers to use different mobile operators when they do not receive signal from their primary provider," read the report. The report further took aim at an agreement signed in 2014 by the UK's mobile operators and the government, which pledged a £5 billion investment to fix "not spots" in the country, and improve mobile coverage by 2017. This was a commitment made in exchange for the government not pushing a national roaming system. At the time, mobile operators knocked back the suggestion of national roaming, branding the plan as "unworkable and undesirable". However, the pressure is now increasing, with BIG claiming that operators are failing to meet targets set in the £5 billion agreement. The group said it was "highly unlikely" that a target of providing voice coverage to 90 per cent of the UK's geographic area by the end of 2017 would be achieved, and called for a progress update to be published this year. It also wants an amendment to the UK's digital economy bill, which would allow Ofcom to issue fines to "any mobile operator that does not meet its commitments". "BIG argues that it's time to sort out the mobile coverage problem once and for all," it added.



# ACCC Publishes Domestic Mobile Roaming Discussion Paper

A discussion paper has been released by the Australian Competition and Consumer Commission (ACCC) as part of its inquiry into whether to declare a wholesale domestic mobile roaming service. The regulator is seeking views on a number of issues it says are relevant to determining whether to declare the service, including: the current state of competition in the wireless market and whether there are barriers to extending mobile networks in regional Australia; the effect that declaring a mobile roaming service may have upon competition; the extent and nature of investment which has taken place in mobile networks since the last declaration inquiry; the effect a declaration may have on mobile network operators' incentives to invest in extending and improving their networks; and the importance of geographic coverage for consumers and mobile service providers' ability to compete. Commenting on the matter, ACCC chairman Rod Sims was cited as saying: 'Mobile coverage and choice of service provider are important issues for Australians, particularly those living in regional, rural and remote areas. This inquiry will explore the extent to which domestic mobile roaming would promote competition among providers and its effect on investment in mobile infrastructure … This inquiry provides an opportunity to reconsider this issue considering the present state of the market, the development of mobile networks since the last inquiry over ten years ago, and current and future consumer needs for connectivity.' Submission in response to the discussion paper are being accepted until 25 November 2016, with the ACCC saying it expects to release a draft decision in early 2017.

# Regulator Orders Rogers to Maintain Wholesale Access Over RFoG DOCSIS

The Canadian Radio-television and Telecommunications Commission (CRTC) has ruled that Rogers Communications must offer alternative ISPs wholesale access to its newest high speed fiber access infrastructure in Toronto. The ruling followed a complaint from ISP TekSavvy implying that competition was being negatively affected in the Bayview Mills condominium complex where Rogers had upgraded its cable distribution network from DOCSIS over HFC to DOCSIS over Radio Frequency over Glass (RFoG), which the regulator classes as fiber-to-the-premises (FTTP). Rogers had notified TekSavvy that no new customers could be connected via the ISP's wholesale arrangement with Rogers in the Bayview Mills complex from December 2015 until the CRTC's new wholesale access policy was finalized and in effect (a process which remains ongoing), but the CRTC has now told Rogers to continue to provide access to TekSavvy's (and any other competing ISP's) existing and new retail end-users.

ARTICLE

# Cybersecurity Skills Shortage & Insider Threats

We live in an era where cyber-attacks are increasingly sophisticated and discrete and the technology and tactics used by criminals has outpaced the ability of IT and security professionals to address these threats. Although there are more than a million cybersecurity positions available worldwide, the global shortage of skilled cybersecurity professionals is set to continue to grow at rapid pace in 2016, putting public and private sector organizations at risk. According the Cisco Annual Security Report 2016, there is currently a deficit of 1 million security practitioners, increasing to 1.5 million by 2019.

The Cisco Annual Security Report highlights the various weak links existing in systems that can expose organizations to cyber security risks. **No matter how many sophisticated security technologies are deployed within an organization, a security solution is still only as secure as its weakest link.**

A UAE workplace security research conducted by Cisco and GBM showed employee behaviour is a genuine weak link in cyber security and becoming an increasing source of risk – more through complacency and ignorance than malice - because companies have so insulated employees from the scale of daily threats that people expect the company's security settings to take care of everything for them.

The same study revealed that 66% of the employees surveyed believed their company has an IT security policy in place but 14% didn't know. 59% believed that IT security is stifling innovation and collaboration in their organization and making it harder to do their job effectively - to the point where some employees take steps to circumvent the policy.

More and more organizations are looking to digitization – creating business value through digitized assets and increased connectivity – to compete in an increasingly global economy, while inadvertently increasing their exposure to cyber attacks. Across the board, organizations need to invest in the people, processes and technologies that will enable themselves to become more resilient in the face of new attacks and compete in the new digital age.


At the same time, employees are increasingly looking at IT security as a barrier rather than an enabler for business. One in five (20%) believe that the costs of lost business opportunity outweigh the costs associated with a potential security breach.

**Training employees** to understand they too are liable on an individual level is of critical importance. When data breaches are the result of an external attack, it is often the inexperience of employees that is exploited – whether it be by clicking on an email link they shouldn't open or downloading an unapproved app. Cyber attackers have identified the human as the weakest element, and will continue to target them. Look at it from the other side, **people are an organisation's most important security defence.**

**Mike Weston**
Vice President,
Cisco Middle East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www.sudatel.sd

ARTICLE

# Internet of Things: The Telco Business Case

With an estimated MENA GDP impact running well towards the US$ 0.5 trillion mark over the next decade, the Internet of Things (IoT) promises to expand economies and create new jobs in both existing and new economic sectors. Some see it as a major revolution of the same magnitude as the industrial revolution of the previous century. But what is IoT, and what's in it for telcos?

In essence, the Internet of Things is a network of 'things'- sensors, machines, trees, or whatever else; that are connected, context-aware and able to take decisions with or without the direct intervention of humans. Other terms that are closely associated with IoT is 'machine-to-machine' (M2M) communication.

**IoT is an orchestra of institutional, infrastructural, machine, business, and personal components coordinating in a seamless and integrated regulatory and technology framework. But it's all not very clear yet, and operators, regulators and other stakeholders are still in the process of figuring out how to leverage, oversee, mitigate or monetise the different opportunities and challenges associated with the Internet of Things.**

From a broader perspective, IoT is an orchestra of institutional, infrastructural, machine, business, and personal components coordinating in a seamless and integrated regulatory and technology framework. But it's all not very clear yet, and operators, regulators and other stakeholders are still in the process of figuring out how to leverage, oversee, mitigate or monetise the different opportunities and challenges associated with the Internet of Things.

**Adel Belcaid**
Principal
A.T. Kearney

As the owners and operators of critical ICT infrastructure through which the Internet of Things will function, telcos have a significant role to play. Their time-honoured customer billing relationships, their nationwide high-speed networks, and their highly visible brands are undeniable assets place them at the centre of IoT developments. Their major challenge, however, is to achieve satisfactory returns on their ever-expanding infrastructure expenditure requirements. Indeed, already today, end-users, with growing consumption of mobile video through social media, are generating very large amounts of data traffic.

**Operators need to optimize their networks to manage the significant differences between the "Internet of people" on the one hand, and for the "Internet of things" on the other.**

Continuous data infrastructure upgrades to cope with this traffic account for close to 60 per cent of operators' network CAPEX today. Complicating matters, data contribution to operator revenues rarely exceeds 30 per cent. The high data volume will continue to spiral as the Internet of things grows. In fact, Cisco estimates that more than 50 billion devices will be connected by 2020, generating more than 40,000 exabytes (nearly 42 billion terabytes) – more than three times the current level. These unprecedented levels of data traffic present major challenges to telecom operators, which will need to keep pumping capital into infrastructure and spectrum investments while still trying to monetize the services that the infrastructure supports.

But there is light at the end of the tunnel, provided operators re-imagine their business models while optimizing their infrastructure. Indeed, operators need to optimize their networks to manage the significant differences between the "Internet of people" on the one hand, and for the "Internet of things" on the other. Unlike the data consumption pattern of people, which tends to reach peaks at particular "prime times", data consumption by machines tends to occur through frequent bursts of small amounts of data. A one-size-fits-all network topology cannot serve both effectively. To better monetize their network investments and the big data tsunami coming their way, operators have to urgently overhaul their network design and topologies to better cater for data traffic nuances and better use spectrum resources.

Additionally, they need to continue innovating their operating model and market-facing strategies to find new revenue streams beyond connectivity and through more extensive use of partnerships. The numbers indicate this is happening: Vodafone, in its 2015 M2M Barometer, reported 88 per cent year-on-year growth in the global retail sector, including in-store digital signage, smart payment systems and supply chain optimization. The healthcare sector is also seeing significant growth (up 47 per cent), with services in remote patient monitoring and patient record systems. These promising numbers indicate that telcos, in close collaboration with industry players, are finding business models to help digitize key industries, and while this is not yet contributing significantly to their top line, it is only a matter of time before they get there.

But operators cannot make IoT a sustainable reality alone. Regulators also have a critical role to play. In particular, there are two areas that need to be urgently addressed from a regulatory standpoint. The first resides in securing sufficient spectrum to accommodate big data traffic, without which, the vision of ubiquitous connectivity and access to content at satisfactory customer experience levels will hardly materialize. Discussions about making additional spectrum available to accommodate big data are ongoing around the world, and that is a good thing, but regulators have to move faster in this regard. The second challenge facing regulators is the issue of privacy. Regulators need to ensure that the big data generated and used by the Internet of Things, is produced, stored, processed and safe-guarded under the right regulatory, legal and technological framework. With IP security (IPSEC) fully embedded in IPv6 protocol (the core Internet protocol of IoT), data security is already addressed to a certain extent through technology. People, capabilities, and business processes will also have to play their part to ensure a fully secure technology environment.

**Regulators need to ensure that the big data generated and used by the Internet of Things, is produced, stored, processed and safe-guarded under the right regulatory, legal and technological framework.**

Even then, a robust regulatory/ legislative framework that preserves individual liberties and the right to privacy in the age of IoT remains a condition sine qua non. Without it, the vision of a safe, intelligent, and interactive urban environment may well turn into a nightmare of unprecedented security threats and personal data hacks, ultimately condemning the utopia of IoT to forever remain in the realm of science fiction.

# TECHNOLOGY NEWS

## Bite Takes 'First step' Towards 5G with 4.5G Test

Wireless provider Bite Latvia has installed what it claims is the country's first 4.5G base station – capable of providing download speeds up to 1Gbps – at a shopping centre in Riga, describing the deployment of the technology as 'the first step towards 5G'. The deployment follows the signing of an agreement between Bite and Chinese vendor Huawei last month, under which the two would work together to implement 5G in Latvia. Bite intends to use the first base station as a pilot to test the platform before expanding coverage to new areas in early 2017. Commenting on the development, the cellco's CEO Kaspars Buls said: 'Seeing how rapidly internet usage is increasing amongst our customers, and how active they are in acquiring new technology, there is no doubt that we … [must] be one step ahead of trends.'

## Telefonica and Huawei Complete PoC Test of 5G UCNC RAN

Spanish telecoms giant Telefonica and Chinese technology vendor Huawei claim to have achieved a new milestone with what they claim is 'the world's first proof-of-concept (PoC) 5G user centric and no cell (UCNC) RAN architecture', which has been tested at their 5G Joint Innovation Lab. With 5G UCNC one of the innovation projects that comes under the '5G&NG-RAN Joint Innovation Agreement' signed by the two companies in June 2016, a press release noted that in the PoC tests the number of 5G connections per cell increased by 233%, the signaling overhead decreased by 78%, and the latency decreased by 95% compared with 'state-of the-art' LTE. Telefonica and Huawei will now reportedly continue with the next phase PoC test, in which they aim to enhance the cell edge spectral efficiency, in order to avoid end-user experience degradation at the cell edges and any service interruption across the network. Meanwhile, in addition to the UCNC PoC tests, Huawei and Telefonica also confirmed the successful demonstration of mmWave Multi-User MIMO technology based on 5G New Radio (NR) and Massive MIMO TDD technology. In this demonstration 70Gbps cell throughput was said to have been reached by mmWave Multi-User MIMO by delivering more than 35Gbps data rates to each user. Commenting on the technology developments, Telefonica Global's chief technology officer Enrique Blanco said: 'Telefonica's collaboration with Huawei on 5G has allowed us to reach disruptive results like the use of User Centric No Cell eliminating handover between cells and reducing interference, which is a significant step towards making 5G a really differential mobile system. With this PoC, included in the trial activities of Telefonica in 5G, we can highlight the progress towards developing new technological elements of 5G that provide an important opportunity to position 5G as a transformative element


for all services and applications that depend on excellent connectivity.'

## Vodafone Launches VoLTE and VoWiFi

Vodafone Netherlands has launched both voice-over-LTE (VoLTE) and voice-over-Wi-Fi (VoWiFi) for its customers. The company says that subscribers will benefit from HD call quality, and added that the new technology works faster and more effectively both indoors and outdoors. Using a lower frequency band (800MHz) 4G can cover longer distances more easily and penetrate through concrete, glass and steel buildings. Chief Technology Officer of Vodafone Netherlands, Eben Albertyn said: 'As homes and offices are becoming better insulated, so we need to find new ways to achieve indoor coverage.' Vodafone Netherlands' VoLTE rollout follows Tele2 Netherlands' deployment of the technology earlier in the year, while at the start of this month CommsUpdate reported that KPN had also begun rolling out VoLTE services to its customers.

# NEC Technology Uses Geomagnetism to Locate individuals

NEC says that it has developed a technology that utilizes geomagnetism to determine the exact location of subjects inside of buildings, where the frame and other steel materials may interfere with GPS signals. Utilizing deep learning, a kind of Artificial Intelligence (AI), this technology estimates the geomagnetic characteristics for each floor of a building based on indoor location information and geomagnetic information obtained by a prior examination. According to these characteristics, it can determine the location of a subject to within 2 meters of accuracy based on the geomagnetic information obtained through a sensor carried by the subject. Going forward, NEC intends to combine this technology with a personal identification technology which uses the resonation of sound determined by the shape of human ear cavities, a motion sensor, and other components and to provide a platform for "hearable devices" (earphone type devices) that can help grasp where a person is, who the person is, and their activity status. There are growing needs to determine the exact location of individuals while they are inside such locations as office facilities and retail stores, for purposes that include dynamic management and customer guidance. Conventionally, methods for locating individuals who are indoors include the use of a beacon or wireless LAN, which may be problematic in terms of costly installment. NEC is aiming for the commercialization of platforms for hearable devices by the end of the 2017 fiscal year by combing this new technology with a personal identification technology which uses the resonation of sound determined by the shape of human ear cavities, motion sensors and other components.

# China Mobile and Huawei Launched World's First Commercial Wideband Massive MIMO

China Mobile Shanghai Branch and Huawei jointly deployed the world's first wideband Massive MIMO site. This is another key milestone delivered after the world's first Massive MIMO solution was launched in Shanghai in September 2015. An achievement marking a great leap forward for large scale commercial Massive MIMO technology and the beginning of a planned series of events outlined in the timetable for 5G large bandwidth evolution. This solution has significantly improved single site capability in the 4G era indicated by a 5 fold increase, achieving 5 6 Giga capability of a single site. The Massive MIMO solution is the primary wireless innovation project that China Mobile has predominantly focused on in 2016. This solution can greatly improve 4G network spectral efficiency and help effectively handle any capacity challenges encountered during rapid mobile development. This solution is perfectly suited for the effective enhancement of coverage and interference mitigation capabilities to meet specialized coverage requirements (such as coverage of high-rise buildings). As a significant component of China Mobile's prospective research on 5G technologies, these activities help steer towards an important direction for the further development and future of 5G evolution. This newly introduced next-generation Massive MIMO solution is oriented specifically towards large-scale commercial use for China Mobile and assumes the lead in providing large-bandwidth capabilities. A single module supports activation of three carriers on 2.6GHz. Distributed network supports smooth evolution to CloudRAN architecture and ensures that hardware is sufficiently prepared and ready for 5G evolution. The average spectral efficiency of cells can be improved by 3-fold. Along with the rapid development of video services, the spectral efficiency can be increased to more than 5-fold. Huawei in-house-developed chips, new materials, and new techniques are used to provide increasingly compact and lighter site equipment. The expedient delivery of this solution is guaranteed as only one optical fiber and one power cable are required to ensure smooth deployment from an engineering perspective. The adoption of the latest chips helps provide processing capabilities 4-fold higher than that of the industry standard, clearly demonstrating the performance advantages inherent to Massive MIMO. Huawei's next-generation Massive MIMO solution leads the way in providing an uplink 8-stream capability configuration to continuously enhance the uplink performance of China Mobile's TD-LTE networks. The live network in Shanghai acts as a verification platform, with impressive peak cell throughput rates reaching 72 Mbps uplink, and 630 Mbps downlink, effectively dealing with any challenges related to network capacity.

# Videotron Now Deploying DOCSIS 3.1

Quebec's dominant cableco Videotron is following up on the introduction of its 940Mbps DOCSIS 3.0-based upgrades earlier this year with the implementation of DOCSIS 3.1 standard technology to support potential speeds of up to 10Gbps/1Gbps (download/upload). Videotron's press release says that it is 'now deploying DOCSIS 3.1 modems on its network and adapting its equipment and working protocols to the new technology.' Manon Brouillette, CEO of Videotron, declared: 'With this deployment, we … will be able to offer better internet access service that meets the growing speed and bandwidth needs of our customers, who are watching more and more HD and UHD videos and adopting the cloud, the Internet of Things [IoT], augmented reality and virtual reality.' Beta testing of DOCSIS 3.1 is already underway at Montreal-area homes and businesses to collect feedback in a real-life environment and help ensure the reliability and performance of the technology once commercially deployed. After testing is completed, the Canadian firm added that 'it will be possible to roll out DOCSIS 3.1 very quickly as it is compatible with Videotron's existing network, where it has been upgraded. Only a new modem for the user and a software upgrade on the network will be needed in order to deliver the very high speeds.'

# SKT, Ericsson, BMW Carry Out First Multi-vehicular 5G Trials

SK Telecom (SKT), Ericsson and BMW have announced what they described as 'the most advanced 5G outdoor mobility trial, including the first multi-vehicular 5G trials'. In a press release outlining the development, it was revealed that the trial was conducted successfully on a 5G test network installed at the advanced BMW car test track in Yeongjong-do, South Korea. SKT and Ericsson jointly deployed network slicing and 5G radio network infrastructure to cover a complete track in the BMW driving centre, and the trial with the connected test cars was said to have demonstrated that 5G performance will support V2X (Vehicular Connectivity) services that require low latency and consistent high bi-directional throughput. The test environment was realized by using an Ericsson 5G field trial network consisting of multiple radio transmission points on 28GHz frequency band to cover the entire track and one user equipment installed in every car. With the trials said to have shown consistent Gbps-level throughput with a few millisecond


latencies, uninterrupted connectivity using beam tracking and beam transfer across the different transmission points at speeds exceeding 100 kilometers per hour was also achieved. Further, the trial simultaneously implemented new key 5G capabilities with multi-site, multi-transmission point, MU-MIMO, and with multiple devices operating in the millimeter wave frequency band.

# Ericsson, Qualcomm Tested CAT-M1 by Using MDM9206

Qualcomm and Ericsson have implemented network and started device testing of data communications by using Cat M1(Category M1 LTE networks, which will allow a larger number of devices to connect to the Internet of Things (IoT)) with MDM9206 modem. MDM9206 is designed to support LTE Cat-M1 for IoT applications and services. They used 700 MHz that is Band 28. This testing was made possible by testing MDM9206 modem at Ericsson headquarters in Sweden and witnessed by executives from Telestra.

# Qualcomm Ramps up IoT Strategy with $47bn NXP Acquisition

Chip maker says deal will extend its presence in automotive, security sectors; deal to close by end of 2017. Qualcomm on Thursday agreed to acquire Netherland's-based chip maker NXP in a transaction worth $47 billion (€42.96 billion). U.S.-based Qualcomm said the deal gives it a leading position in the markets for automotive, security, network processing and RF power, and IoT semiconductors, and complements its mobile processor and modem businesses. "The NXP acquisition accelerates our strategy to extend our leading mobile technology into robust new opportunities, where we will be well positioned to lead by delivering integrated semiconductor solutions at scale," said Qualcomm CEO Steve Mollenkopf, in a statement. Last year, NXP became the world's biggest provider of semiconductors for the automotive industry when it closed its $11.8 billion acquisition of Freescale Semiconductor. As well as developing chips for vehicle safety and security, it also counts 14 of the top 15 in-car infotainment companies among its customer base. "By joining Qualcomm's leading SoC capabilities and technology roadmap with NXP's leading industry sales channels and positions in automotive, security and IoT, we will be even better positioned to empower customers and consumers to realise all the benefits of the intelligently connected world," Mollenkopf said. "The combination of Qualcomm and NXP will bring together all technologies required to realise our vision of secure connections for the smarter world, combining advanced computing and ubiquitous connectivity with security and high performance mixed-signal solutions including microcontrollers," added NXP chief Rick Clemmer. Under the deal, Qualcomm will commence a tender offer to acquire all of NXP's issued and outstanding shares for $110 per share. The transaction will be funded through a combination of cash on hand and new debt. Qualcomm expects to generate annual synergies of $500 million within two years of the deal closing. The combined company is expected to generate annual revenues of more than $30 billion. "The complementary nature of our technologies and the scale of our portfolios will give us the ability to drive an accelerated level of innovation and value for the whole ecosystem," Clemmer said. The deal is subject to regulatory approvals and customary closing conditions. Qualcomm said it expects to complete the transaction by the end of 2017.

# Nokia, STC ink Deal to Deploy 4.5G Across Saudi Arabia

In its latest Mobility Report, the Swedish kit maker said it expects North America to lead the way, accounting for 25% of 5G connections by 2022, with Asia-Pacific claiming a share of 10%. Western Europe's share is expected to be 5%. By then, 5G networks will cover 10% of the world's population, Ericsson said. "We are already seeing a great interest among operators in launching pre-standard 5G networks," said Ulf Ewaldsson, chief strategy and technology officer of Ericsson, in a statement. Of course, making 5G subscriber forecasts is made more difficult by the fact that 5G has not been standardized yet. This time last year, Ericsson's Mobility Report predicted that 5G subscriptions would reach 150 million by 2021. At the time, Ericsson defined a 5G subscription as a device that supports what it called 'LTE Evolved' – comprised of enhancements to access technology that use existing mobile spectrum, and/or 'NX', new access technologies that utilise spectrum where LTE has not previously been deployed – connected to a network based on standards that meet the ITU's IMT-2020 requirements. This time around, the Mobility Report simply states that commercial 5G networks will be based on ITU


standards. When it comes to mobile standards that exist today, 4G is gaining on 3G, notes Ericsson. LTE subscriptions in 2016 are expected to reach 1.7 billion, compared to 2.3 billion for WCDMA/HSPA. However, by 2022, 4G will have overtaken 3G, with connections coming in at 4.6 billion and 2.8 billion respectively. Meanwhile, the latest edition of the report predicts there will be 29 billion connected devices in total by 2022, of which approximately 18 billion will be IoT devices. Smartphone subscriptions are expected to 6.8 billion, up from 3.9 billion in 2016.

# G.fast Takes Center Stage as Broadband Forum Takes Part in ITU Telecom World 2016

With Ovum forecasting ITU G.fast subscribers to reach 30 million by 2025, interoperability between chipsets (for CPE and Distribution Point Units) is a complex but absolutely vital component for the industry when deploying the technology at scale. This is the message that the Broadband Forum will deliver at ITU Telecom World 2016, held this week in Bangkok, Thailand. Speaking as part of a panel on "Gearing up for Ultra-High Speed Networks," the Forum's Marketing Director Mark Fishburn will discuss the critical requirements for delivering G.fast, alongside fellow panelists Dr. Reinhard Scholl, ITU's Deputy to the Director of the ITU Telecommunication Standardization Bureau, and David Bessonen, Senior G.fast Engineer at Telebyte, Inc. The Broadband Forum will also exhibit at the show in conjunction with Forum member Telebyte, one of the leaders in G.fast Physical Layer testing. The company will provide a live demonstration of G.fast in a real-world test environment, including products from its ID-337 solution group – based on the Broadband Forum's ID-337 G.fast Certification Test plan. "As the industry continues to embrace G.fast, its success in broadband networks absolutely depends on service providers having a wide choice of equipment and this is where interoperability comes in," said Fishburn. "The Broadband Forum's collaboration with the University of New Hampshire InterOperability Laboratory aims to address exactly this issue and a huge amount of work is going on at the moment to achieve true G.fast interoperability." The Broadband Forum's work on G.fast builds upon the success of the ITU-T, which approved its ultrafast broadband standard, designed to deliver access speeds of up to 1Gbit/s over existing telephone wires, in conjunction with the Forum's FTTdp architecture project. "Consumer demand for high-speed networks, including gigabit access, is increasing all the time," said Frank Van der Putten, Rapporteur of the ITU-T Q4/SG15 experts group on broadband access on metallic conductors. "It is key that gigabit access technologies are standardized and, more importantly, that the standards organizations facilitate interoperability testing from the start. That is why the work of ITU-T and the Broadband Forum is so vital as we enter the Gigabit Era."

# ITU Standardization Takes up Strong Position to Power the Smart 5G era

ITU membership has called for ITU's standardization arm to expand its study of the wireline networking innovations required to achieve the ambitious performance targets of smart 5G systems. This call has come in parallel with ITU members' reaffirmation of the importance of ITU's standardization work to drive the coordinated development of ultra-high-speed transport networks, the Internet of Things, future video technologies, and smart cities and communities. ITU members have also encouraged ITU standardization to increase digital financial inclusion; promote affordable mobile roaming tariffs; and strengthen consumer protection and ICT service quality. Members have in addition called for ITU standardization to support the use of cloud computing to record event data from aircraft, vehicles and other connected machinery. These directives of the World Telecommunication Standardization Assembly 2016 (WTSA-16) held in Hammamet, Tunisia, October 25 to November 3, have given further impetus to ITU standardization work aimed at supporting government, industry and academia in achieving their priorities for year 2020 and beyond. The conference, which takes place every four years, gathered up to 1000 delegates from 92 countries to deliberate on a wide range of standardization topics critical to the next phase of innovation in ICT. The Assembly also reviews the structure and working methods of the ITU Telecommunication Standardization Sector (ITU-T) and elects the teams that will lead ITU-T's expert groups. Another key focus of WTSA is to review ITU-T's mechanisms for collaboration with other standards bodies and the many vertical sectors applying ICTs as enabling technologies. "WTSA-16 has achieved a range of victories for international collaboration," said Moktar Mnakri, Chairman of WTSA-16. "The diverse membership of ITU-T has reached a series of agreements to assist all regions of the world in their efforts to share in the social and economic benefits that will be accelerated by ICTs in coming years." "I would like to commend Tunisia for the visionary role that it continues to play in promoting the use of ICTs to drive sustainable development," said ITU Secretary-General Houlin Zhao. "The country's hosting of WTSA-16 has made valuable contributions to ITU's work to broker consensus on policy and technical questions crucial to the development of the global ICT ecosystem. The discussions of WTSA have provided ample evidence of the importance of ITU standardization work in driving global connectivity and innovation." "The deliberations of WTSA-16 have demonstrated the great spirit of collaboration for which ITU membership is well known," said Chaesub Lee, Director of the ITU Telecommunication Standardization Bureau. "Our members have worked tirelessly to reach agreement on the future shape of ITU-T, ensuring that it is fit for purpose to deliver standards capable of providing an equitable basis for ICT innovation worldwide. ITU-T has emerged from WTSA-16 in a strong position to support the development of the trusted ICT infrastructure essential

to the success of smart 5G systems supported by ultra-high-speed transport networks, the Internet of Things and Smart Sustainable Cities." Alongside adopting 15 new WTSA Resolutions and revising 31, the Assembly also revised two of the A series ITU-T Recommendations that guide ITU-T's work, and in addition approved five ITU standards on subjects including international mobile roaming and Internet Exchange Points. A series of informative side events was also held in conjunction with WTSA-16, including:

- The CCITT/ITU-T 60th Anniversary Talks, which hosted high-profile speakers to explore the role of standards in supporting innovation in Artificial Intelligence and Digital Financial Services.
- The first CxO Meeting in the Arab and Africa Regions, which assembled high-level executives from companies such as Alibaba, Deutsche Telekom, Ericsson, Huawei, KT, Orange, Sofetel and Tunisie Télécom.
- The first meeting of the ITU Women in Standardization Expert Group (WISE), which brought together leading women in the ICT field to discuss ways to close the ICT gender gap.
- A special event focused on the accessibility of ICTs to persons with disabilities, highlighting ITU's latest initiatives to mainstream ICT accessibility in the development of technical standards.
- The decisions of WTSA-16 have shaped ITU-T into a form optimized to provide government, industry and academia with common technical platforms to assist their pursuit of the United Nations' Sustainable Development Goals.

## Optus Achieves 35Gbps Downlink Speed over 73GHz Band in 5G Network Trial with Huawei

Australia's Optus has announced that it has successfully completed a 5G network trial in partnership with Chinese vendor Huawei Technologies. In a press release the operator claimed to have achieved 'the fastest speeds observed of a single user transmission over 5G in Australia so far'; having carried out the tests in Sydney, these were said to have reached a single user transmission rate of 35Gbps over the 73GHz band. Optus noted that the objective of the trial was to explore spectrum efficiency at millimeter wave frequencies (above 30GHz), which are said to be key to realizing the promise of 5G networks. The trial was a localized initiative as part of the 5G collaboration Memorandum of Understanding (MoU) between Optus' parent company Singtel and Huawei, and utilized technologies such as mm wave and Polar code. Dennis Wong, acting Managing Director at Optus Networks, said: 'Australia is well positioned to take a pioneering role in the development of 5G technologies globally. We believe Optus, as one of the Australasia's leading telecommunications and entertainment providers has the partnerships and the expertise to take a leadership position … The possibilities with 5G are endless. Through our strategic partnership with Huawei we are undertaking the necessary preparation, testing and trials to tackle the 5G opportunity head on.'

## GSMA Lobbies for Global Spectrum Collaboration Toward 5G

The GSMA is calling on governments and regulators around the world to agree on a global harmonized spectrum plan to enable the future delivery of 5G Ultra-fast 5G services will require vast amounts of spectrum significantly higher frequencies are already being looked into. While this work is critical, the GSMA has highlighted in its 5G spectrum position paper that mobile spectrum must be quickly identified within three key frequency ranges – including traditional low frequency bands – to deliver widespread coverage and support all use cases. The three ranges are:

- Sub-1GHz: Will support widespread coverage across urban, suburban and rural areas and help support Internet of Things (IoT) services.
- The 1-6GHz range: Offers a good mixture of coverage and capacity benefits, including spectrum within the 3.3-3.8GHz range that is expected to form the basis of many initial 5G services.
- Above 6GHz: Is needed to meet the ultra-high broadband speeds envisioned for 5G; a focus will be on bands above 24GHz.

"Although the mobile industry, academic institutions and international standards-making bodies are developing the technologies central to 5G, success will depend heavily on affordable access to the necessary amount of spectrum," said John Giusti, chief regulatory officer at the GSMA. "It is essential that sufficient new mobile spectrum is made available – and that operators are allowed to repurpose existing spectrum for 5G when required. Governments are central to the WRC-19 [World Radiocommunication Conference in 2019] process to identify harmonized spectrum for 5G and incentivize the necessary network investment."

# Ericsson Sees N America Leading 5G Penetration; Dampens IoT Forecast

North America "will lead the way" when it comes to regional 5G uptake, with the technology accounting for a quarter of all mobile subscriptions in the region by 2022, according to Ericsson's latest Mobility Report. Ericsson's study tipped North America to steal a march on rival regions, such as Asia-Pacific and Europe, when it comes to 5G market penetration by 2022, a timeframe that is two years after an industry-wide consensus on when services will launch globally. There has been a big push across all three regions in particular on being first to 5G, with Asian players earmarking a goal to launch 5G by 2018, in time for the Winter Olympic Games in Korea, but North America is still forecast to reach the highest penetration globally in the early stages. However, worth noting (and something Ericsson's report doesn't focus on) is the fact that Asia Pacific will have a far higher number of total 5G subs than North America, given its much larger mobile base. In total, there will be 550 million 5G subscriptions in 2022, said Ericsson, with Asia-Pacific emerging as the second most penetrated region. By that year, 10 per cent of the region's total subscriptions will be based on 5G, while Western Europe will lag just behind. The company's forecast for 2022 represents a sharp rise from its report last year, which estimated there will be 150 million 5G subscriptions by 2021.

**IoT forecasts dampen**

When it comes to connected devices, Ericsson however appeared to further dampen growth forecasts, estimating there will be 29 billion devices connected by 2022, with 18 billion related to IoT. In June 2015, the company said there would be 26 billion connected devices by 2020, the first time it slashed its well-publicized vision of 50 billion connected devices by the same timeframe (this time last year it also said there would be 28 billion by 2021). The relatively slow growth (at least compared to the previous huge headline figure) is something of a surprise considering the amount of noise around 5G's role in increasing the number of interconnected devices, and the Internet of Things.

**Subs growth**

In the more immediate future, by the end of this year Ericsson forecasts 3.9 billion Smartphone subscriptions, with 90 per cent of the total registered on WCDMA/ HSPA and LTE ("mobile broadband") networks. This Smartphone total will rise to 6.8 billion by 2022, when 95 per cent of the base will be on LTE, WCDMA/ HSPA, and 5G networks. By the end of the same time period, there will be a total of 8.9 billion mobile subscriptions globally, said Ericsson, with a mammoth 90 cent for mobile broadband, and a total of 6.1 billion unique mobile subscribers. Ericsson's chief strategy and technology officer, Ulf Ewaldsson, believes mobile broadband uptake will only increase. "Almost 90 per cent of Smartphone subscriptions are on 3G and 4G networks today and standardized 5G networks are expected to be available in 2020," he said. "We are already seeing a great interest among operators in launching pre-standard 5G networks." Mobile broadband subscriptions meanwhile grew 25 per cent year on year, increasing by around 190 million in Q3 2016, reaching a total of 4.1 billion. Data traffic also grew 10 per cent sequentially in Q3, and 50 per cent year on year, driven by video content in particular.

# China Unicom Tests G.metro Technology with ADVA

China Unicom has conducted a successful field trial of G.metro wavelength division multiplexing-passive optical network (WDM-PON) technology over its so-called 'fronthaul' network. The tests, which were carried out in conjunction with ADVA Optical Networking, were said to be 'wavelength agnostic', and used a single bidirectional fiber link between head-end and tail-end equipment, 'reducing the requirement for wavelength configuration and management'. After successfully evaluating the platform, China Unicom showcased it to customers during a laboratory demonstration in Beijing. Guangquan Wang, the director of the telco's Network Technology Research Institute, commented: 'Due to booming demand for mobile data, it's become essential that we find innovative ways to increase capacity … With this field trial and lab demo, we've shown how to achieve these efficiencies and ensure low-latency performance. During the trial, the prototype was installed in one of our central offices in Tianjin to replace the transmission link of one of our working LTE stations.'

ARTICLE

# Filling Digital Gaps & Meeting Telco Needs through Localized Content Delivery

## Why Saudi Arabia is a Priority Content Market

The online content streaming market in the MENA region is growing rapidly due to the rate of consumption for online content, which is supported by the availability of advanced communication infrastructure. Online streaming was initially being driven by international players, but has now been accelerated by locally focused digital content platforms.

Icflix, a streaming platform based in the Middle East, providing online streaming throughout the world, is now leading regional content creation and propagation, offering subscription-based as well as pay-per-view services to thousands of subscribers. Icflix believes that pay-per-view offering will help tackle the issues of piracy and illegal downloading in the region.

As a regional streaming service targeting diverse diasporas, Icflix's prime focus is on original Jazwood (Arabic content) – a term coined by Icflix to represent Arabic cinema and programming. Because there is a constant demand for local language content, the company is working on a number of original

**Carlos Tibi**
CEO
Icflix

productions in Morocco and Tunisia, which will cater to consumers not just across the Arab world but also beyond. Over 60% of Icflix's subscribers are currently based in the UAE, Saudi Arabia, and Morocco, closely followed by Egypt.

In leading regional markets, for instance, in Saudi Arabia, where advanced communication infrastructure is among the best in the developing world and which is constantly being upgraded, and where a large audience for content exists, the demand for local content is rising, exponentially.

**As Saudi Arabia moves forward in fulfilling its national ICT Vision 2030, the Saudi consumers have truly embraced mobile technology as a basic necessity in their daily lives, with average Saudi consumer owning 2.3 connected devices, and 89% of consumers using their smart phones to watch TV content.**

In Saudi Arabia, which also has the largest Internet user population in the Arab world, the number of connected devices such as tablets and smart TV's have fuelled demand for personalized content, because of the convenience and accessibility that consumers prefer in being able to watch what they want, when they want, and where they want. As Saudi Arabia moves forward in fulfilling its national ICT Vision 2030, the Saudi consumers have truly embraced mobile technology as a basic necessity in their daily lives, with average Saudi consumer owning 2.3 connected devices, and 89% of consumers using their smart phones to watch TV content. This presents a unique opportunity for Icflix to both provide targeted content as well as to design and produce new content in line with the needs and the wants of the society; to help fill digital gaps and to add quality of new experiences in the lives of the Saudi citizens.

The expansion of Icflix's native app to gaming consoles such as PS3, PS4 and Xbox One as well as Apple TV, Android TV and Roku set top boxes, thus making Icflix available on more than 12,000+ devices, has also made content viewing much more accessible, especially catering to the needs of younger audiences. Moreover, by developing strategic partnerships with regional telecom operators, effectively, by becoming their video-on-demand arm, Icflix is helping meet ARPU needs in a reliable manner. The need for legal streaming, in this case, via telecom operator infrastructure, is also met for a wide audience.

Granted the video streaming industry is making advances ahead, it has had to tackle major challenges, English subtitling being one of them. Until recently, local content distributors did not have a post-production time coded script for subtitling services, making its difficult to make subtitles for older films. Another challenge has been the localization of payment gateways and 4K streaming at the lowest possible bandwidth with in-demand content. Icflix has managed to tackle this by developing its own payment gateway to address the local market across the MENA region and also addressed the Internet connection speeds that vary across the MENA region, thus being able to deliver 4K streaming without interrupting the quality.

Complemented by over-the-top video consumption trends, trends in the distribution of content have now begun to change as well. In the past, content studios were providing contents directly to a handful of entertainment companies. Now, studios are beginning to realize that they are locking their content from propagation to more viewers, and thus should use the Icflix platform to reach out to more consumers of their diverse content.

**The expansion of Icflix's native app to gaming consoles such as PS3, PS4 and Xbox One as well as Apple TV, Android TV and Roku set top boxes, has also made content viewing much more accessible, especially catering to the needs of younger audiences.**

With Icflix venturing into the original productions, the object is to cater to the needs of the local market by providing a platform that supports and promotes new productions, which should express both creativity and address regional socio-economic issues. Being the only video-on-demand service to offer multi-regional and international video content on a single platform, Icflix has a strategic advantage of making significant contributions to education, entertainment, and to the overall digital content strategies of regional telecom operators.

سلطنة عُمان
Sultanate of Oman

هيئة تنظيم الاتصالات
Telecommunications Regulatory Authority

# INVITATION TO BID FOR A THIRD LICENCE TO PROVIDE PUBLIC MOBILE TELECOMMUNICATIONS SERVICES IN THE SULTANATE OF OMAN

The Telecommunications Regulatory Authority ("TRA"), Sultanate of Oman ("Sultanate"), announces the availability of the Information Memorandum (IM) detailing the process for the award of a third Licence for the Installation, Operation, Maintenance and Exploitation of a Telecommunications System to Provide Public Mobile Telecommunications Services in the Sultanate.

The TRA considers that the enhancement of competition in the mobile telecommunications services market will be of significant benefit to consumers and to the economy of the Sultanate, and is consistent with the General Policy of the Government as well the TRA's mandate to promote market entry under the Telecommunications Regulatory Act.

The availability of a range of additional radio spectrum that could be deployed is expected to provide a multitude of mobile telecom services, particularly mobile broadband, to the consumers in the Sultanate.

The announcement of the availability of Information Memorandum (IM) for the third Mobile License was published on the TRA website on 15th November 2016 and the closing date for the purchasing the IM is 26th December 2016. The detailed process of how the Information Memorandum (IM) can be obtained by the interested parties is available in our website under the following URL

www.tra.gov.om

# REGULATORY NEWS

## SAMENA Telecommunications Council CEO Chairs 7th Private Sector Chief Regulatory Officers (CROs) Meeting during ITU Telecom World

Private sector representatives view digital services, data regulation, spectrum management and taxes, fees and charges, and cross-sectoral regulatory collaboration as key imperatives for digital development. Chief Executive Officer of SAMENA Telecommunications Council, Bocar BA, chaired the 7th Meeting of the Private Sector Chief Regulatory Officers (CRO), held in Bangkok, Thailand, as a pre-event to the Telecom World 2016. The Meeting was attended by high-level industry executives from ITU-D Sector Members. Mr. Bocar BA, who has been chairing this global private-sector representative forum of the ITU since the 4th Meeting, emphasized on the need for telecoms technology companies to actively use the CRO platform for having a meaningful dialogue with public-sector stakeholders and decision-makers, and for translating public and private-sector priorities into achievable goals. He provided SAMENA regional operator perspectives and led a discussion on various industry matters. Guided by key imperatives, which were finalized earlier under the chairmanship of Mr. Bocar BA and which are now driving the CRO's future endeavors, including on contributing to optimal enabling environment, promoting market access and infrastructure, and supporting to create added values of ICT applications, the participants of the 7th CRO Meeting, which included international companies such as Zain, Etisalat, VimpelCom, MasterCard, among others, agreed to focus on Digital Services, Data Regulation, Spectrum Management and Taxes, fees and charges, and Cross-sectoral Regulatory Collaboration. The private-sector representatives also highlighted the need to treat Data Regulation as a priority and proposed to invite data protection authorities together with telecom operators as a next step for physically driving cross-sectoral regulatory collaboration. Mr. Bocar BA, as CEO of SAMENA Telecommunications Council, an industry association guided by an all-telecom operator Board of Directors, had previously reiterated the above core areas as major deciding factors for the ICT industry's future success and had communicated the need to focus on these areas to regional regulatory bodies. He remarked that "We are no longer a telecoms-only industry. For this reason, and many more, our focus has to shift to defining and addressing core issues that will impact the fulfillment of our digital agenda goals and sustainability across all fronts. The 7th CRO Meeting has successfully built on our past discussions, and it is very encouraging to note that the issues of digital services, data regulation, spectrum, taxation, and cross-industry collaboration have received acceptance by the private-sector representatives as the defining areas for us to be thoroughly engaged with each other. I would like to congratulate the CRO participants for a very successful discussion, and anticipate that we will delve into these areas further deeply during the next Global Symposium for Regulators (GSR)." The CRO Meeting brings together senior industry executives from private-sector entities that are members of the ITU-D Sector. The primary objective of the CRO Meeting is to share experiences and exchange ideas on how to strengthen the private sector's involvement and engagement in global, regional and national initiatives and to identify mechanisms to better foster an enabling environment for future development of the sector. Under the chairmanship of SAMENA Telecommunications Council's CEO, the CRO platfrom, since its 4th meeting, has been able to successfully re-define the objectives, the mechanisms, and initiatives to prospectively engage regulatory authorities around the world, to conduct purposeful citizen-centric projects, including in the area of financial inclusion.

# Saudi Information Ministry Launches Array of new Digital Services

The services use the latest developments in the field of information technology and ensure an efficient e-governance to better manage the ministry's works and services, a senior official at the ministry said. The new online services include the system for media licenses, for reporting media violations, for publication of books and printing materials, for advertisements in Umm Al-Qura (Official Gazette of Saudi Arabia), for events and exhibitions, and the ministry's website and electronic applications. The new e-system devised for media licenses targets all media licenses issued by the ministry including registration services for issuance of new and renewal of existing licenses. The entire process will be monitored online from the time of application, and throughout the stages of document verification and approval. It will include an electronic payment system, if the license requires such, and then allow for the issuance of renewal of licenses electronically. It will also include notices issued to beneficiaries through SMSs. For the system for publication of books and printing materials, an electronic service will be offered to authors and publishing houses regarding the issuance of licenses for the publication of books and printed materials, their printing, and their distribution in the Kingdom. The system allows beneficiaries to submit publications electronically, monitor comments of reviewers regarding such publications, and amend them, if required, and complete necessary procedures electronically for the issuance of printing permission. The system for events and exhibitions allows for issuance of licenses for events held throughout the Kingdom, and contains all information and conditions that must be met. The system also includes a group of procedures and electronic steps that must be followed, such as the notice and involvement of internal and external stakeholders. Furthermore, it provides a platform for beneficiaries through which they can quickly and easily monitor requests, in addition to informational services to help in identifying requests and cases, without visiting the ministry's building in person. The system for reporting media violations is an electronic system that will allow for easy reporting of media violations. The report passes through a verification phase and correspondence is issued electronically to the plaintiff and the defendant regarding the report. When all necessary evidence is provided, the report is transformed as a case to concerned committees. The system also provides a number of services such as the provision of notices about dates of sessions and hearings, and a means for inquiring about feedback on cases and case information. The new services on advertisements in Um Al-Qura include an electronic system for publishing government and private announcements, tenders and competitions, and provide an electronic payment option upon completion of necessary procedures and obtaining approval. Payment can be made through Sadad, if such a service requires payment. With these new online services, the ministry's website has completely been overhauled and updated to include all systems and applications, and to serve as reference for all the ministry's news and activities. The website also serves as an electronic reference for all the ministry's regulations and regulations of the related authorities, while Smartphone applications were enhanced and developed for iOS and Android operating systems.

# Government Notifies Uniform Rules for Faster Telecom Network Rollout

To address telecom sector's woes, the Department of Telecom in India has notified uniform rules for the rollout of mobile and cable networks across the country that aim to facilitate installation of towers, laying of cables in a time-bound manner and on non-discretionary basis. Expeditious roll out of telecom infrastructure will help improve quality of service, reduce call drops as well as cost of setting up networks. According to the notification, the authorities involved in granting Right of Way or RoW permit will have to grant permission within 60 days of application. In case of rejection of the application, they should record reasons in writing. If the authority concerned does not reply within 60 days of application submission by telecom operator, the approval for right of way "shall be deemed to have been granted", as per the rules notified by DoT. To check arbitrary fee levied by various agencies on network rollout, authorities have been barred from imposing any fee, charge, lease rental, license fee other than the expense that they would incur as consequence of the proposed work. Every application under the rule "shall be accompanied with such fee to meet administrative expenses for examination of the application and the proposed work as the appropriate authority may, by general order, deem fit", the notification said. Such fee to meet administrative expenses "shall not exceed one thousand rupees (Rs 1000) per kilometer", it said. Telecom operators have often blamed local authorities in states for creating unnecessary hurdles in rollout of infrastructure, specially in granting RoW permission. Most of the complaints have been made regarding abnormally high price for RoW as well as different levies or fee imposed by various authorities other than charges prescribed under telecom licenses. In some cases, the charges have been as high as Rs 7 crore per kilometer for laying underground cables. However, the notification said that authorities concerned may impose cost of restoring damage caused to road or other infrastructure as result of laying cable or installing any other telecom network equipment. "The licensee (Telecom operator) shall, while making the application, give a specific commitment on whether he undertakes to discharge the responsibility for restoration, to the extent reasonable and prudent, of the damage that the appropriate authority shall necessarily be put in consequence of the work proposed to be undertaken," the notification said. (MORE) PTI PRS MBI MR 11182016 Telecom operator seeking ROW permission will have to either make the payment of expenses or submit the bank guarantee within 30 days from the date of grant of permission and prior to the commencement of work of laying the underground telegraph infra-

structure, the notification said. Telecom company will also have to put measures to mitigate public inconvenience and provide for public safety while carrying out the project. To expedite permission process, the appropriate authority will have to develop an electronic application process within a period of one year from the date of coming into force of these rules for submission of applications, the notification added.

# Kosovo and Serbia Reach New Agreement on Country Code

Kosovo and Serbia have reached a new agreement, under which the breakaway republic will be allocated its own national dialing code – 383 – by the ITU by December 15, 2016. The new pact was negotiated by the two governments with the EU mediating the process, and is in full compliance with the preceding deals, the Brussels Agreement for Telecom (2013) and the Action Plan agreed in 2015, Kosovo's Minister for Dialogue Edita Tahiri said in a statement. Under the new deal, Belgrade will issue a notice to the ITU, agreeing to the allocation of the new code, by December 3. For its part, meanwhile, Kosovo will issue a temporary and limited concession permitting Serbian state-owned telco MTS to provide wireless services via a local subsidiary in Kosovo. The operator will be allocated spectrum to provide services within the areas of Kosovo it already covers with its network: the operator is understood to have unofficially offered mobile services in the north of Kosovo via base stations near the border since 2010, when the Kosovar telecoms regulator removed the cellco's equipment within the territory of the republic. Further, the concession will limit the number of customers that MTS can sign up to its services. MTS will also be given permission to offer fixed line telephony services, though it was not mentioned whether the same territorial and subscriber limits would apply. Following the conclusion of the agreement, Kosovo will switch to the new 383 code and remove the three codes currently in use: 381, 377 and 386. In its statement, the Pristina administration also suggested that its counterpart in Belgrade would cooperate in preventing the illegal provision of mobile services in northern Kosovo by Serbian-licensed companies on the other side of the border. The statement notes that such illegal services will be stopped, although only one of the three companies it claims are participating in the violation will be legitimized by the deal.

# Oman's TRA Issues Guidelines on Internal Telecom Network in Buildings

Guidelines on installation of internal telecommunications networks in buildings have been issued by the Telecommunications Regulatory Authority (TRA). The guidelines are about the installation criteria which represent a technical reference to construction engineers, consultants and landlords of residential and commercial buildings. The guidelines aimed to ensure presence of a fast internal communications network for all facilities of the building and the possibility of connection of e-services in the future such as the security system in the building and the smart home technology. The guidelines also include the necessity for presence of one communication channel or more between the boundary wall of the land plot and the built up area of the house or establishment in order to facilitate supplying the building with communication cables, mainly the fiber optic cables. With the presence of such a communications channel, the consumer and the communications company will not need to remove the floor of the yard of the house or carry out excavation works for supplying the building with telecommunications cables. Each building should have a basic structure to support its telecommunications services, provided that such basic structure should be prepared for more than a service provider. As per the complaints, the TRA receives from customers it has been noticed that some complaints have focused on the weak fixed telecommunications network and the low speed of the fixed internet in the houses. In several cases the weak internal network of the house is ascribed to the use of bad quality copper cables.

# Afghan Operators' Signal Spillover Issue with Pakistan Still Unresolved

Pakistani officials raised the issue of GSM signal spillover of Afghani telecom operators into the border areas across Durand Line (Pakistan-Afghanistan border), however, an official reply from Afghan government is still awaited, said Chairman Pakistan Telecommunication Authority (PTA) Syed Ismail Shah. Dr. Shah said that issue was simultaneously raised through General Headquarter (GHQ) and Foreign Office; however, Afghan counterparts are yet to reply on the matter. Pakistan cannot bind Afghanistan to stop signal spillover across the border, however International Telecommunication Union (ITU) has recommended all the members countries to restrict phone signals to their territories, said Chairman PTA while briefing a parliamentary panel. The Sub-Committee of Committee on Delegated Legislation of Senate which met with Muhammad Daud Khan Achakzai in the chair expressed serious concerns over the phone signal spillovers from Afghanistan while terming it serious security threats. Committee observed that in most terrorists' cases in Pakistan it was traced that phone signals of Afghan telecom operators were used and that is why the whole matter was made part of the National Action Plan (NAP). PTA chairman said that the issue was raised with Afghanistan on several occasions even through GHQ and Foreign office. Further it was discussed on the sideline of some international conferences where Afghan side verbally assured to address the issue, however, nothing measurable has happened as of yet. PTA chairman further said that Pakistan-Afghanistan border is a wide area spanning several hundred kilometers and controlling signal spillover through jammers is almost impossible. PTA chairman said that roaming services for Afghan SIMs in Pakistan have been blocked/stopped, meaning that no Afghan SIM will operate in Pakistan on roaming. However, areas adjacent to borders — up to tens of kilometers — still have Afghan operators' signals where such SIMs can operate normally. The committee was also briefed on rules, regulations, notifications and SROs in pursuance of the existing Acts of the Parliament of Universal Service Fund. Senator Kalsoom Parveen said that it was alleged that the Fund was utilized out of its mandate. The committee members also raised questions on overlapping of different laws; however, Chief Financial Officer (CFO) of USF said that there is no tussle or overlapping in the Acts and laws, hence facing no issues in this regard. Rector Virtual University Naveed Malik briefed the committee on rules, regulations, notifications and SROs in pursuance of the existing Acts of the Parliament of the University. The committee raised serious questions over hiring employees on contract basis while saying that employees have not been given any protection. Rector informed that there are 170 campuses of the University across the country while over 42000 students including 1900 overseas students are enrolled for various courses. He further said that Planning Commission is considering opening 15 more campuses. The University is imparting education according to the latest technological era.

# Finland and Estonia Sign deal on 700 MHz Band Use

Finnish communications regulator Ficora said Finland and Estonia signed an agreement on October 28 on the use of the 700 MHz band. It guarantees interference-free operation of mobile broadband networks. It governs spectrum use in the coastal and sea areas in Finland and Estonia.

# ECTEL to Push Through Net Neutrality

The Council of Ministers of the Eastern Caribbean Telecommunications Authority (ECTEL) – the body which represents the interests and provides an overarching regulatory structure for the Eastern Caribbean states of Dominica, Grenada, St Kitts & Nevis, Saint Lucia, and St Vincent & the Grenadines – has said it will move ahead with plans for new legislation that will guarantee the citizens of its member states receive unhindered access to internet services. ECTEL issued a statement saying that the planned new rules include 'provisions for supporting the policy of net neutrality, which is based on the principle that ISPs should treat all data on the internet the same. Due to the increased number of over the top [OTT] services and the growing trend for service providers to block these services, this principle has become very important to protect consumer's ability to access all content on the internet. The principles of net neutrality have been included in electronic communications legislation in European Union countries, the United States of America, Chile and Canada.' Going forward, ECTEL will continue to pursue its policy position on net neutrality armed with the new Electronic Communications (EC) Bill which was recently approved by the ECTEL Council of Ministers. The Bill sets the framework for full public consultation on the development of regulations which will specifically address net neutrality.

# Spectrum: ETNO Welcomes Parliament Vote, Calls for More Ambition to Deliver the Gigabit Society

ETNO, the Association representing Europe's leading providers of digital communications and services, has today welcomed the vote of the Industry Committee of the European Parliament on the 470-790 MHz frequency band. Wide and rapid availability of the band across Europe is necessary to foster 4G rollout and ensure that Europe leads in the development of 5G.

**700 MHz, a key step towards the gigabit society**

The European Commission has put forward an ambitious vision for 5G and the Gigabit Society. A substantial upgrade of Europe's broadband networks is key to achieve it, and efficient and effective spectrum management is a necessary step to get there. In the light of this, ETNO welcomes the decision to allocate the upper part of the band ("700 MHz") to mobile broadband by 2020. Also, ETNO believes that Member States should retain flexibility over coverage obligations and other conditions attached to licenses. Over-prescriptive obligations risk distorting competition and discouraging investments.

**Sub-700 MHz, flexibility and technology-neutrality are crucial**

Regarding the lower part of the band ("sub-700 MHz"), ETNO believes that Member States should retain the flexibility to allocate it to mobile broadband in a technology-neutral manner. Efficiency and end-users' interest should be the main guiding principle, with a view of empowering the digitization of European society. In this respect, we call for flexibility and technology-neutrality to be maintained during the next phases of the legislative process. Lise Fuhr, ETNO Director General, said: "Spectrum is the lifeblood of the mobile economy as well as of the 5G revolution and Industry 4.0. Europe needs to ensure enough spectrum is allocated to mobile broadband in order to cope with future data traffic needs. This overarching goal should be at the heart of the final 470-790 MHz band decision and of the Electronic Communications Code"

# Swedish Regulator Applies New Broadband Law Forcing Telia to Open ducts

Sweden's Post & Telecom Agency (PTS) has ordered incumbent telco Telia to provide access to its cabling ducts to allow a community association to deploy its own fiber broadband network, in the first settlement dispute under a new law designed to promote high speed broadband expansion which took effect in July. Telia had refused the request of Torptappans Samfallighetsforening – a community association of approximately 30 properties outside Stockholm – which had asked to build a fiber network in Telia ducts within the association area, but the PTS decided yesterday that the telco must enable such access to the association under 'fair and reasonable terms'. The decision is supported by the 'Law on Measures for the Development of Broadband Networks' which entered force on 1 July 2016. The law asserts that any party planning to build a fiber broadband network has rights to use existing ducts under certain conditions, thereby reducing rollout costs, whilst establishing a framework for dispute resolution between duct infrastructure owners (whether in telecoms or other sectors) and would-be network builders, based on EU directives.

# Telecoms Regulators Fight Back Against Commission Plan for New EU agency

A fresh fight is brewing over the European Commission's plans to turn a group of national telecoms regulators into a full-blown EU agency, with several top watchdogs saying the move will compromise their independence and give Brussels too much power. Some observers say they are reminded of the Commission's past attempts to sweep authority away from national regulators: the executive has tried before to corral the group of watchdogs into a central EU agency whose powers could have been vetoed by the executive. But national governments killed that bid in 2009. Measures to beef up the group of regulators were also taken out of another telecoms bill last year. Now, the EU executive is taking another stab at setting up an agency and promising the regulators a 75% budget increase. National telecoms regulators would also get more power under the new proposal and be able to block measures in other EU countries—if they agree with the Commission to use a so-called double-lock veto. But even the promise of money and power has not won over the regulators. Several watchdogs in charge of monitoring telecoms markets in EU countries are pushing back against the Commission's plans to absorb them into an EU agency. They argue the proposal would force them to answer to the executive and make it awkward to publicly disagree with Commission decisions, sources told EurActiv.com. The regulators have disagreed with the Commission before and warned the executive last month that its high-profile plan to get rid of mobile roaming fees could hurt smaller telecoms operators. Telecoms watchdogs warn that the Commission plans would make BEREC, the umbrella group of regulators, more like ACER, the EU agency that was set up in 2009 to bring together energy regulators from member countries. "If you turn BEREC into the ACER agency that would in the end strengthen the influence of the European Commission," said Wilhelm Eschweiler, the 2016 chair of BEREC and vice president of Germany's telecoms regulator, the Bundesnetzagentur. The Bundesnetzagentur also monitors Germany's energy and rail suppliers. Eschweiler argues the agency idea doesn't translate because the telecoms sector is more divided between EU countries than energy. "The flexibility is not as huge as people think. There is a framework, there are limits. But markets are so different, so you need flexibility from the national side," Eschweiler said. The Commission wants to create a new role of executive director at the top of BEREC, which would be an official on the Commission's payroll. The director would not get to vote in the new EU agency's decisions—but the Commission would have two votes along with the twenty-eight from national regulators. Günther Oettinger, the EU commissioner in charge of telecoms policy, told a room full of regulators at BEREC's annual conference last month that the national watchdogs should have "common competencies exercised in full independence of economic and political influence". "We also believe there's a European interest in those common [..] competencies being exercised consistently. A reformed BEREC could be the best guarantee of that," the German commissioner added. One Commission official described telecoms regulators as "kind of conservative" types who "want to preserve the status quo". Negotiations over the plans to turn BEREC into a full-fledged EU agency – its small, Riga-based administrative office already counts as one, although national regulators are not part of the agency – could now be held up by critics of the Commission's plan. National governments may side with their telecoms regulators who do not want to see a change. Last week, the bill was handed to a conservative MEP from the ECR group to shepherd it through the European Parliament. Some MEPs from the group have spoken out against the proposal to transform BEREC. Last year, conservatives in the Parliament's budgetary control committee voted against approving BEREC's 2013 budget of €3.5 million. The Commission estimates that BEREC's budget will climb to €7.5 million by 2020 after it's turned into an agency. The number of its employees is also set to rise from 22 next year to 60 in 2022. Czech MEP Evzen Tosenovsky, the new rapporteur in charge of the bill, told EurActiv he would be "cautious" in deciding "where the setting of BEREC's office could be improved and whether the existing bottom-up BEREC structure needs to be transformed into the agency with stronger involvement of the Commission". Some observers are skeptical the Commission will be able to get the Parliament and national governments to agree to turn BEREC into an agency. "Becoming an agency is a proposal, not a decision," Sharon White, the chief executive of British telecoms regulator Ofcom, said at a BEREC conference last month. "BEREC works very effectively in its current constitution as a network, not an agency," she said. White told the conference that Ofcom will "continue to be as involved in Europe as it is today" after the UK leaves the EU because it regulates telecoms companies that also operate in other European countries.

# NZ Watchdog Raises Concern Over Sky/Vodafone Merger

New Zealand's competition watchdog wants more information on Vodafone's proposed merger with Sky TV, as it expressed concern that the deal could lessen competition in the country's telecom and pay-TV markets. The Commerce Commission, which was due to rule on the proposed NZD1.25 billion merger in November, deferred its decision to an unspecified date, as it asked both companies to make further submissions on certain areas of concern. This includes "the ability of a merged Sky/Vodafone to use ownership of content – particularly live sports – to make buying Sky on a standalone basis less attractive than buying it in a bundle with Vodafone's broadband and mobile services". "The commission's concerns is that while consumers may initially benefit from lower prices, rival broadband and mobile providers could lose or fail to achieve scale and become less competitively effective," said the regulator. It added that this could reduce competition in these markets, and potentially enable the merged entity to raise prices or lower the quality of service, beyond what it would be able to do "without the merger occurring". After announcing the deal in June, Sky tried to allay some competition concerns by entering into talks with 2degrees, the country's number three mobile player about a possible content deal. Vodafone's closest rival Spark New Zealand meanwhile has not said if it would negotiate with Sky, but would be interested in bundling content. The operator has also hit out at the proposed merger, insisting it should be blocked unless Sky changes the way it offers wholesale sport content to rivals. Both Sky and Vodafone are expected to respond to the Commission by 11 November.


# DoT Frames ROW Policy for Smooth Setting up of Telecom Infrastructure

In order to enable faster roll-out of telecom infrastructure to improve quality of service, the Department of Telecommunications (DoT) has come out with a so-called Right of Way policy that will lay out rules for faster acquisition of land for installation of towers and fiber. The permission to roll out infrastructure could come in as early as within 60 days of application, telecom secretary J.S. Deepak said. "The rules should come out by today or tomorrow. We have finalized them," he said. Telecom companies have been looking forward to this policy reform as it facilitates ease of doing business in terms of getting permission from government authorities. One of the major arguments given by companies for the call drop situation has been delay in getting permissions for setting up of towers. With this step, the DoT has paved way for companies to resolve network problems in addition to reforms in spectrum management undertaken in the last one year.

# French Watchdog Fines Altice for "gun-jumping"

France's Competition Authority hit Altice with a fine of €80 million for "gun-jumping" practices, in relation to its 2014 acquisition of SFR and Virgin Mobile. The decision comes after an investigation into whether the companies had begun to cooperate on commercial activities before securing regulatory approval for the deal. Altice said in a statement it chose not to refute the claims, and accepted the settlement. "The denounced practices, which aimed to make the new entity operational as soon as possible after obtaining clearance of the transaction, were performed in good faith, in the midst of legal uncertainty," said Altice. The French group said the settlement also demonstrated its eagerness "to restore constructive dialogue with the regulator", with a focus on making future investments in 4G, content services and broadcast rights. Altice further conceded that the fine, the first of its kind in France, "clarified the rules that the parties to a merger must observe between the signature of the agreement and the Competition Authority's decision". The company was also recently dealt a blow in its attempts to buyout SFR's remaining minority shareholders, with the stock market regulator blocking the move last month. Altice said it planned to appeal the decision.

# India Ccuts USSD Charges to Boost Mobile Banking

India's Telecom Regulatory Authority announced a cut in the maximum fee for USSD banking, in an effort to support mobile payment services. Effective immediately, the maximum cost per USSD session is INR 0.50, down from INR 1.50 previously. In addition, the maximum number of steps to complete a USSD transaction increases to eight from five, in order to allow for more complicated transactions over mobile phone. TRAI said the lower price will help increase access to financial services, especially in rural areas where more and more people have mobile phones. Usage of mobile banking and payments has increased in India since early this month when the government announced that the low-denomination INR 500 and 1,000 notes would no longer be legal tender. This is part of efforts to root out 'black money', where payments in cash are used to evade taxes. To support small payments, mobile operators such as Bharti Airtel and Vodafone India have waived mobile banking USSD fees until year-end. Communications Minister Manoj Sinha confirmed the news on Twitter, saying telecom operators had agreed to not charge for mobile banking transactions through 31 December. The BBC reports that the government's action has also sparked increased use of digital wallets. The country's largest digital wallet firm, Paytm, said it logged a record of over 7 million transactions on 19 November. Paytm, which supports payments such as mobile top-ups, utilities, entertainment and transport tickets, claims to have 150 million users, while its nearest rival MobiKwik has 35 million.

# EU Privacy Regulators Probe WhatsApp-Facebook Data Sharing

The EU's Article 29 group has started an investigation into WhatsApp's privacy policy. The working group, part of the DG Justice at the European Commission, coordinates cross-border issues on personal data protection among national regulators. The investigation is a result of WhatsApp starting to share some of its data with parent company Facebook. In a letter to WhatsApp CEO Jan Koum, the work group said that is has serious concerns about how WhatsApp informed users of the change in its policy and whether the consent of users can be considered valid. It also noted that the change in policy contradicts what Facebook previously said, that it would not share personal data with WhatsApp. The group asked the companies to provide more specific information on exactly what data is being shared, from where it is collected and how it's used. In addition, the group urged Facebook and WhatsApp to not share the data until it can be determined whether the processes are legal in the EU. It was not clear from the letter which country is leading the investigation. Facebook and WhatsApp have previously been under scrutiny by privacy regulators in countries such as the Netherlands, Belgium, France and Germany, and several national regulators said they would look at the changes in data sharing with WhatsApp. Germany has already blocked Facebook and WhatsApp from actively sharing their data; Facebook is appealing the decision.

# Broadband Providers Will Need Permission to Collect Private Data

Federal officials approved broad new privacy rules on Thursday that prevent companies like AT&T and Comcast from collecting and giving out digital information about individuals — such as the websites they visited and the apps they used — in a move that creates landmark protections for internet users. By a 3-to-2 vote, the Federal Communications Commission clearly took the side of consumers. The new rules require broadband providers to obtain permission from subscribers to gather and give out data on their web browsing, app use, location and financial information. Currently, broadband providers can track users unless those individuals tell them to stop. It was the first time the F.C.C. has passed such online protections. The agency made privacy rules for phones and cable television in the past, but high-speed internet providers, including AT&T and Verizon Communications, were not held to any privacy restrictions, even though those behemoth companies have arguably one of the most expansive views of the habits of web users. The passage of the rules deal a blow to telecommunications and cable companies like AT&T and Comcast, which rely on such user data to serve sophisticated targeted advertising. The fallout may affect AT&T's $85.4 billion bid for Time Warner, which was announced last week, because one of the stated ambitions of the blockbuster deal was to combine resources to move more forcefully into targeted advertising. "There is a basic truth: It is the consumer's information," Tom Wheeler, the chairman of the F.C.C., said of the necessity of protecting internet users who want more control over how companies treat their private information. "It is not the information of the network the consumer hires to deliver that information." Privacy groups applauded the new rules, which they said brought the United States more in line with European nations that have moved aggressively to protect their citizens' online privacy. "For the first time, the public will be guaranteed that when they use broadband to connect to the internet, whether on a mobile device

or personal computer, they will have the ability to decide whether and how much of their information can be gathered," said Jeffrey Chester, executive director of the Center for Digital Democracy. The outcry from industries that depend on online user data was also swift. Cable lobbying groups called the rules a result of "regulatory opportunism," while the Association of National Advertisers labeled the regulations "unprecedented, misguided, counterproductive, and potentially extremely harmful." Even with the new rules, online privacy remains tricky. Many people have been lackadaisical about what information they give up online when they register for websites or digital services. The convenience of free services like maps also appeals to people, even though they give companies access to personal information. And some people unknowingly forgo their privacy when allowing apps or other services to track their location or follow their browsing across websites. The F.C.C. rules also have their limits. Online ad juggernauts, including Google, Facebook and other web companies, are not subject to the new regulations. The F.C.C. does not have jurisdiction over web companies. Those companies are instead required to follow general consumer protection rules enforced by the Federal Trade Commission. That means Google does not have to explicitly ask people permission first to gather web browsing habits, for example. AT&T, Verizon and Comcast will also still be able to gather consumers' digital data, though not as easily as before. The F.C.C. rules apply only to their broadband businesses. That would mean data from the habits of AT&T's wireless and home broadband customers would be subject to the regulations, but not data about AT&T's DirecTV users or users of the HBO Now app, which would come with the merger with Time Warner, for example. The companies also have other ways to collect information about people, including the purchase of data from brokers. AT&T, which has criticized the privacy regulations for internet service providers, would not comment on how the rules would affect its proposed purchase of Time Warner. But it emphasized the benefits of ads that allow for free and cheaper web services. "At the end of the day, consumers desire services which shift costs away from them and toward advertisers," said Robert W. Quinn Jr., AT&T's senior executive vice president for external and legislative affairs. "We will look at the specifics of today's action, but it would appear on its face to inhibit that shift of lower costs for consumers by imposing a different set of rules on" internet service providers. Comcast said that the rules were not needed and that the F.C.C. did not prove that broadband providers were hurting consumers. For over two decades, internet service providers "and all other internet companies have operated under the F.T.C.'s privacy regime and, during that time, the internet thrived; consumer privacy was protected," said David L. Cohen, Comcast's senior executive vice president. Major broadband providers will have about one year to make the changes required by the new rules; the companies must notify users of their new privacy options in ways like email or dialogue boxes on websites. After the rules are in effect, broadband providers will immediately stop collecting what the F.C.C. deems sensitive data, including Social Security numbers and health data, unless a customer gives permission. The new rules are among a set of last-ditch moves by Mr. Wheeler to make the F.C.C. a stronger watchdog over the broadband industry. Since he was appointed F.C.C. chairman in 2013, he has tried to open the cable box market in an effort to promote streaming videos, among other actions. Mr. Wheeler is entering what are probably the last few months of his tenure at the agency, as he is not expected to be reappointed by whoever becomes the next president. The F.C.C. proposed the broadband privacy rules in March. That followed the reclassification of broadband last year into a utilitylike service, a move that required broadband to have privacy rules similar to those imposed on phone companies. Once the rules were proposed, the F.C.C. immediately faced a backlash. Cable and telecom companies created a lobbying group called the 21st Century Privacy Coalition to fight off the regulations. The group is led by Washington heavyweights like Jon Leibowitz, the former chairman of the F.T.C., and former Representative Mary Bono, Republican of California. Henry A. Waxman, former chairman of the House Energy & Commerce Committee and a Democrat, was also hired by the 21st Century Privacy Coalition and wrote an op-ed article in The Hill to protest the rules. Even some web companies protested the proposed rules. Google said in comments filed to the F.C.C. this month that the regulations should not include web browsing, because that does not necessarily include sensitive personal information.

## PTS Proposes Deregulation of Fixed Telephony Market

Swedish regulator Post & Telestyrelsen (PTS) is consulting with the European Commission (EC) to discuss the potential deregulation of the country's fixed telephony market. The PTS and the EC share the view that there is no longer a need to regulate fixed telephony market segments due to the waning popularity of circuit-switched (PSTN) telecoms in recent years. This decline has been largely due to operators moving away from using traditional fixed telephony services towards more advanced technologies such as IP and fiber, whilst many consumers are opting out of fixed telephony options altogether in favor of mobile services. As previously reported by CommsUpdate, the PTS confirmed in its latest annual report that IP telephony (VoIP) overtook traditional PSTN telephony to account for the largest share of fixed voice connections in Sweden by the end of 2015. TeleGeography's GlobalComms Database says that Swedish incumbent PSTN operator Telia continues to be categorized as holding significant market power (SMP) in fixed call origination, obliging it to offer cost-oriented rates (whilst all operators who terminate fixed calls on their networks are categorized as having SMP in the market for fixed call termination). The Swedish market segment under consultation with the EC is 'fixed telephony services' (formerly regarded as the distinct markets for fixed access and fixed call origination).

# A SNAPSHOT OF REGULATORY ACTIVITIES IN SAMENA REGION

## Bahrain

Adel Darwish, head of international relations at TRA Bahrain, has been appointed as the vice-chairman of ITU Study Group 3 (SG3). The appointment of Mr. Darwish took place during the ITU World Telecommunication Standardization Assembly (WTSA-16), held in Vasmeen al Hammamat – Tunisia later in October. Study Group 3 discusses economic and regulatory issues relating to global ICT growth. The World Telecommunication Standardization Assembly is held every four years and defines the next period of study for ITU-T. The traditional mandate of SG3, which continues today, dates back to the early days of the International Telegraph Union (in the 1800s) in terms of interconnection, the improvement of daily operations and the settlement of accounts. The membership of SG3 is diverse and includes Member States as well as service providers (Sector Members), Academia Members and international organizations (such as the World Trade Organization (WTO)). SG3 is responsible for studies relating to tariff and accounting matters (including costing methodologies) for international telecommunications services. It also studies related telecommunications accounting, economic and policy issues. SG3 is the home for ITU-T D-Series Recommendations (available here). Study Group 3 was entrusted by the World Telecommunications Standardization Assembly (Dubai, 2012) with the study of 5 Questions. In 2015, Study Group 3 approved an additional 5 questions, which were endorsed by TSAG in June 2015, for a total of 10 questions available here. Topics being studied by SG3 during the 2013-2016 study period include, inter alia, NGN charging and accounting, international Internet connectivity, international mobile roaming, economic impact of OTTs, identification of relevant markets and significant market power (SMP), use of commercial agreements for international telecommunication services arrangements, international aspects of universal service, economic and competitiveness aspects of mobile financial services, dispute resolution related to charging and invoicing, alternative calling procedures and so on. The needs of developing countries are an important focus of the group. There are 5 active regional groups of ITU-T SG3 for Africa (SG3RG-AFR), Asia and Oceania (SG3RG-AO), Latin America and the Caribbean (SG3RG-LAC), the Arab Region (SG3RG-ARB) and the Regional Commonwealth in the Field of Communications and the Commonwealth of Independent States (SG3RG-RCC/CIS).

(November 22, 2016) samenacouncil.org

The Telecommunications Regulatory Authority Bahrain held a key telecommunications forum on November 15, 2016 on "the present and future of telecoms towers in the kingdom of Bahrain". Bahrain Minister of Transportation and Telecommunications stressed on the importance of telecommunications infrastructure, which represents the backbone of digital society and economy that eventually lead to prosperity and economic growth in the Kingdom. "It is not possible to keep pace with rapid and massive changes in all areas of economic sectors without the development of state of art telecommunications infrastructure at the national level that deliver ultra-fast broadband services not only on fixed network but also on wireless network which requires deployment of mobile towers." He added: "It is also equally important to comply with all technical, engineering, safety, and health standards and best practices when deploying radio communications towers. This shall not disrupt the ability of mobile operators to provide quality services and meet the ever increasing demand on mobile services." TRA chairman Dr. Mohamed Al Amer said: "The forum aimed at raising awareness of the realities of telecoms towers safety and addresses the misconceptions and public concerns surrounding them. International experts from GSMA shared their research on the subject, explaining how the mobile technology works, the related international standards and how safe it is to the public." During the event, TRA also presented its future vision on this subject by shading light on how through the new mast and towers regulation it will handle the approval and deployment of telecoms masts in the Kingdom. GSMA expert Dr. Jack Rowley said: "The policy of Bahrain follows global best practice to protect the public. The health protection limits are those recommended by the World Health Organization, the levels measured in public areas are very low relative to the limits and the consistent conclusion of public health agencies around the world is that there are no established health risks of living near a mobile network antenna."

(November 16, 2016) arabianindustry.com

# Bangladesh

Malaysia's Axiata and India's Bharti Airtel announced yesterday that the legal merger of their Bangladeshi mobile subsidiaries Robi Axiata and Airtel Bangladesh has been completed, and the new company will now operate under the Robi name. Axiata's statement confirms that the parties registered their merger filing with Bangladesh's Registrar of Joint Stock Companies & Firms (RJSC). Its statement added: 'Pursuant to the above and in accordance with the [merger] Agreement, the Proposed Merger is completed today and the parties are in process to obtain the Merged License and completion of other procedural and/or administrative formalities.' The merger of Bangladesh's third (Robi Axiata) and fourth (Airtel) placed cellcos – agreed in January this year – creates a new second-ranked cellco behind GrameenPhone and in front of Banglalink in user number terms. The new Robi is owned by Axiata (68.7%), Bharti Airtel (25.0%) and Japan's NTT DOCOMO (6.3%). (November 17, 2016) telegeography.com

# Egypt

The number of mobile phone subscribers in Egypt rose slightly to 96.25 million in September from 96.24 million subscribers in August. The Ministry of Communications and Information Technology said 8,570 new customers were added to the mobile market in September. It also stated that Etisalat Egypt attracted the most customers, at 208,000 new ones, bringing its total to 23.01 million in September, compared with 22.8 million in August. Orange lost 106,100 customers, decreasing its number from 33.6 million in August to 33.49 million in September. Vodafone lost 93,500 customers from 39.8 million in August to 39.7 million in September. Telecom Egypt (TE) lost 426,500 landline subscribers in September, as the number fell from 6.3 million in August to 5.9 million in September. (November 21, 2016) The Daily News

The telecoms regulator National Telecommunications Regulatory Authority (NTRA) may consider revising prices of international portal license for Vodafone and Orange Egypt following a move to freely float local currency, sources with knowledge in NTRA said. The NTRA previously offered the international portal license for a total of 3.5 billion Egyptian pounds provided that each mobile operator would pay 1.8 billion pounds. NTRA said it will collect the license value entirely in dollars. After floating decision, the source added, NTRA would revise the prices of the license according to the new exchange rates. The NTRA gave the two mobile operators a period of six months to study terms of acquiring international portal license starting from the day they obtain the 4G license. The international portal license, which was recently acquired by Telecom Egypt and Etisalat Misr, will allow licensees to provide international calls services. TE earlier announced renewing agreement on renting required infrastructure with Orange Egypt and Vodafone Egypt to start providing 4G services while the two companies are waiting for the best offer TE would make. For his part, Stefano Gastaut, CEO of Vodafone Egypt said that his company would announce a final decision concerning the acquisition of International Portal license within a period of two months. (November 4, 2016) zawya.com

# Iran

A consortium of Iranian companies is seeking to enter the tightly-controlled Syrian telecommunications market, according to a daily closely linked to the present regime. A source told that the Iranian companies have set their sights to become the third mobile services operator in the war-torn country, after the South African-owned MTN Group and the locally-owned SyriaTel. Both of these providers hold 20-year operating concessions that went into effect on January 1, 2015, however reports have circulated since then that the Syrian government was looking into opening up a stake for a third mobile provider. The source did not go into details on the Iranian consortium, other than saying it "will enter the Syrian market under one brand-name" which has yet to be decided upon. The state-run Syrian Telecommunications Establishment will own approximately 20% of the shares of the new Iranian-owned operator, the source also said. (November 23, 2016) now.mmedia.me

Following the agreement of key principles for licensing MVNOs in Iran, 24 companies (from 51 applicants) have been qualified by the Communication Regulatory Authority of Iran (CRA). The implementation phase for developing MVNOs in Iran has begun! However, Iranian MVNOs have yet to attract the domestic and foreign partners they need to cooperate with, which means the time is right to meet key stakeholders, present offers, and discuss business plans. The prospective MVNOs have a lot to

do including signing wholesale contracts with MNOs, choosing technology partners, and reviewing business models to support their growth plans. They need new partners to help them succeed. Many factors make Iran particularly exciting for securing growth in the telecoms sector. The new accord secured through the Joint Comprehensive Plan of Action (JCPOA) after the successful nuclear negotiations, combined with the large population of young users in Iran and the significant potential to gain market share for new MVNOs, means that the Iranian ICT market is extremely attractive, representing an outstanding opportunity for local and international companies. Although domestic companies have good knowledge and capabilities, co-operating with international companies is likely to generate even more success. Iran is the most stable market in the Middle-East but it is mostly unknown for international players. Iran has a population of more than 80m, with a high proportion of young users, eagerly searching for new services, yet despite this; there had been just two MNOs with full national coverage! As a result, there has been limited competition and innovation in the market. The entry of MVNOs into the Iranian market from late 2016 will change this situation and it is predicted that in the next 10 years, Iranian MVNOs can expect to sign-up 12m subscribers. MVNOs will target profitable growth through the introduction of innovative plans, services, and a focus on neglected and unexploited segments. For example, MVNOs will offer services such as B2B, IoT/M2M to segments such as utilities, the oil and gas industry, and other large enterprises. We can expect to see innovative services, such as the use of mobile network data to observe the performance of drivers in order to decrease road casualties and provide better insurance offers. (November 9, 2016) teyf.com

# Iraq

Zain Group and Huawei have announced the launch of convergent billing system in Iraq. Dr. Haidar Radi, Zain Iraq COO said: "Zain listened and responded to the requirements of its customer base by delivering a cutting edge convergent billing solution in partnership with Huawei. The launch marks a milestone in the telecom industry in Iraq, as Zain's customers now have the freedom to handle and receive their mobile services in a multitude of different ways." Mohamad Sharara, president of Zain global account at Huawei Middle East said: "We are proud of our partnership with Zain, as we continue to launch new products and services in the region that redefine the telecommunications industry and provide customers with ease-of-access to new and existing services. We are particularly proud of today's launch due to the challenging environment that exists in Iraq. We worked closely with the Zain Iraq team to deploy Huawei's solution, which brings places the operator ahead of the competition with respect to digital services." The solution includes convergent rating, charging and billing, a new enterprise bus (ESB) that enables and facilitates interactions between diverse software components. These are all integrated together with a new Customer Relationship Manager (CRM) and other IT support systems that help Zain understand and service the customer. The implementation was undertaken in multiple stages. The first phase enabled prepaid customers to recharge their balance online, and purchase rich Zain Iraq services through multiple channels. The second phase moved post-paid customer rating to the same platform, with both prepaid and post-paid customers benefiting from being able to be serviced quickly by the same offering. This year the final stage of the project went live, with full customer service in all Huawei business support systems. (November 21, 2016) commsmea.com

# Jordan

The Telecommunication Regulatory Commission (TRC) and French-owned operator Orange Jordan have signed an agreement to settle an arbitration case brought by the cellco against the regulator regarding the renewal of Orange's 900MHz spectrum license. In April 2014 Orange balked at the TRC's asking price of JOD156.4 million (US$220.1 million) for a 15-year extension to its license and filed suits with local and international courts in protest. In order to avoid closing down its 2G services, in May that year the cellco agreed a compromise with the TRC, paying JOD52.1 million to renew its license for five years, with the option to extend its concession for a further ten years at a price to be determined at a later date. Under the new agreement, the TRC will extend Orange's 900MHz permission for a further ten years, starting from May 9, 2019. The renewed license will be technology neutral for the entirety of its total 15-year period (i.e. including the original five-year extension from May 2014), and the operator will pay a total of JOD156.38 million for the authorization. In addition to the JOD52.1 million already paid, Orange will pay the remaining JOD104.25 million in two equal installments, payable by May 8, 2019 and May 8, 2024. The agreement also stipulates that Orange will roll out 100 new mobile sites outside of Amman by May 2019, in return for which Orange will be granted exemptions from the payment of annual spectrum returns for a cumulative period of six years. (October 31, 2016) telegeography.com

# Kuwait

The Government of Kuwait has achieved upstream speeds of 10Gbps over a single fiber in lab tests of Nokia's XGS-PON fiber technology. The trials pave the way for the government to offer enhanced speeds of 10Gbps symmetrical (from the current maximum of 1Gbps). The equipment vendor provided its 7360 Intelligent Services Access Manager (ISAM) FX and 7368 ISAM Optical Network Terminals for the trial. Federico Guillen, President of Nokia's Fixed Networks Business Group, said: 'We are honored to help the government offer superior and innovative services to their customers. Our unique approach will enable the government to protect its investment by allowing it to upgrade from GPON to XGS-PON and to TWDM-PON by utilizing the same access node.' The Kuwaiti state watchdog and sole fixed line telephony operator the Ministry of Communications (MoC) offers GPON-based fiber-to-the-home (FTTH) services to 16 areas of Kuwait via a network commissioned in 2005 and launched in 2006; the network is operated by the MoC's ISP division Zajil Telecom (KEMS). (November 9, 2016) telegeography.com

# Lebanon

Caretaker Telecommunications Minister Boutros Harb discussed his Ministry's successes over the past two years at a Telecommunications Ministry reception marking the end of his term. One of those successes, Harb said, was the transfer of LL21 billion (US$14 million) in vital revenues that the Telcos Ministry owed to municipalities and the Independent Municipalities Fund. Harb also announced that by 2017 the ministry will provide wireless 4G connection across the country as part of the ministry's Lebanon 2020 breakthrough plan. "Eighty-five percent of the Lebanese will benefit from high-speed internet through fiber optics," he said. He also addressed allegations of corruption that were leveled at him after a number of illegal internet networks were discovered across Lebanon. "I have been accused of covering for Dr. Abdel Moneim Youssef, when I was, rather, defending the administration," Harb said, referring to the head of Ogero, the main operator of the fixed telecommunications network in Lebanon.

He thanked the Ministry's staff for cooperating with him under difficult circumstances. Harb said as he described the achievements at the Telecoms Ministry as "miracles," as "all the projects were fought and refused at the cabinet meetings." Harb pledged to support President Michel Aoun to ensure his success. (November 18, 2016) Daily Star

# Morocco

Skype, Whatsapp and Viber – immensely popular VoIP services that have been banned in Morocco for almost a year – have been fully restored, according to anonymous sources who spoke to Le360. The National Telecommunications Regulatory Agency (ANRT) sent letters to Maroc Telecom, INWI and Meditel ordering them to allow Internet calling services to be functional again. News of VoIP's return to Morocco comes three days before the United Nations Convention of the Parties 22 (COP22) conference starts in Marrakesh. Two weeks ago, ANRT's former Director General Azeddine El Mountassir Billah, was dismissed from his position without prior notice under unclear circumstances. The regulator is currently facing a lawsuit by a Moroccan citizen who claims the ban directly harmed him economically and personally. ANRT argues that consumers do not have the right to sue the agency because the users have not signed a contract with the government entity, as Moroccan telecom firms have. The ban met fierce resistance from Moroccans living abroad when it was implemented in January. Over ten thousand citizens signed a petition calling on Head of Government Abdelilah Bekirane to lift the blockage. Moroccan parents with dual citizenship in Western countries posted pictures that showed their children holding letters with a request to King Mohammed VI to intervene in ANRT's decision. A study by the American Center for Technological Innovation at the Brooking Institution last month revealed that the Morocco economy has lost $320 million as a direct result of the VoIP ban. (November 4, 2016) moroccoworldnews.com

# Nepal

The government of Nepal is seeking ISPs to deploy broadband access networks to public sector buildings in seven regions affected by 2015's devastating earthquakes. The infrastructure will be rolled out to all schools, colleges, health centers and Village Development Committee (VDC) offices in the regions of Gorkha, Dhading, Makawanpur, Dolakha, Ramechhap, Sidhuli and Okhaldhunga. The costs of the project will be covered by the country's Rural Telecommunication Development Fund (RTDF) which is collected as a percentage of telco revenues. The seven regions have been split into two groups, with applications invited from registered ISPs to carry out the work in one or both areas within twelve months. (November 17, 2016) telegeography.com

Nepali mobile operator Ncell has said it will be ready to launch 4G LTE services in Kathmandu, Pokhara and Damauli within a month of receiving the go-ahead from the regulator, the Nepal Telecommunications Authority (NTA). Axiata subsidiary Ncell submitted its work plan to the NTA on November 4 and is now awaiting permission to launch commercial services using 1800MHz spectrum. The operator has also asked to increase its holding in the 1800MHz band to 20MHz, from 11MHz currently. Rival operator Nepal Telecom (NT) was given the green light to launch LTE services last month, with its switch-on scheduled for January 2017. Nepal is a home to 28.3 million mobile users at the end of June 2016. (November 15, 2016) telegeography.com

The Nepal Telecommunications Authority (NTA) has followed up its recent award of a 4G license to Nepal Telecom (NT) by calling on rival operator Ncell to submit its own work plan for the rollout of LTE technology in the 1800MHz band which it currently uses for 3G services. Ncell's plan will be submitted 'soon', with services expected to be launched in early 2017; NT has already been given permission to launch 1800MHz LTE networks from January 1. Ncell spokesperson is quoted as saying: 'Infrastructure to launch the service, including the billing system, is ready. All we need to do is align our system with the spectrum once we get the license.' It is thought that Ncell's 4G approval has been delayed because of a row over the company's capital gains tax. The operator is majority owned by Axiata Group of Malaysia. (November 1, 2016) The Kathmandu Post

# Oman

The Telecommunications Regulatory Authority (TRA) of Oman has published an Information Memorandum (IM) detailing the process for the award of the country's third mobile network operator (MNO) license. Any interested party wishing to submit a bid application will be required to meet a number of minimum requirements. These include: owning and operating telecoms infrastructure and providing mobile services in its country of origin for a period of at least ten years, as well as in at least one other country for a minimum of five years; having annual turnover equivalent to more than US$250 million from mobile telecoms services; and having a net asset value of at least US$400 million at the time of application. The closing date for the availability of the IM is December 26, 2016. The TRA said that it considers that the enhancement of competition in the mobile market will significantly benefit consumers and the economy of the Sultanate, adding that 'the availability of a range of additional radio spectrum that could be deployed is expected to provide a multitude of mobile telecom services, particularly mobile broadband, to consumers'. Oman is currently home to two MNOs, majority state-owned Oman Telecommunications Company (Omantel) and Ooredoo Oman, in which Qatari incumbent Ooredoo holds a 55% stake. In addition, two MVNOs – FRiENDi mobile and Renna Mobile – are active in the wireless sector. (November 16, 2016) telegeography.com

The Telecommunications Regulatory Authority (TRA) has announced the beginning of the process to award a third license for the installation, operation, maintenance and exploitation of a telecommunications system to provide public mobile telecom services in the country. On November 15, TRA will announce the details of the process to register interest in the opportunity, and the purchase of the information memorandum on its website. TRA considers that the enhancement of competition in the mobile telecommunications services market will be of significant benefit to consumers and to the economy of the sultanate, and is consistent with the general policy of the government as well as the TRA's mandate to promote market entry under the Telecommunications Regulatory Act. The availability of a range of additional radio spectrum that could be deployed is expected to provide a multitude of mobile telecom services, particularly mobile broadband, to consumers in the sultanate, added the TRA. (November 7, 2016) Muscat Daily

The Telecommunications Regulatory Authority (TRA) of Oman has finalized the procedures to award the country's third mobile network operator (MNO) license and will release the bidding documents on November 15. In a statement released via social media, the TRA revealed that its executive management has approved all the conditions and procedures for the award of the

new concession, a move which is aimed at improving the market's competitive environment. Earlier this month, the regulator issued a decision urging existing service providers to improve the quality and speed of their networks and bring down prices, following a rise in complaints from consumers. Oman is home to two fixed telephony and mobile network operators, majority state-owned Oman Telecommunications Company (Omantel) and Ooredoo Oman, in which Qatari incumbent Ooredoo holds a 55% stake. In addition, two MVNOs – FRiENDi mobile and Renna Mobile – are active in the wireless sector, while Awasr Oman is the latest company to enter the fixed broadband market, providing services over the fiber-optic network of state-owned infrastructure firm Oman Broadband Company (OBC). (November 1, 2016) telegeography.com

Oman's elected Shura Council will summon the heads of the two major telecom companies, which are the target of a mass boycott campaign to protest prices and quality of services, Gulf News has learnt. Hamood Al Yahya, a Shura member representing Dhank province and chairman of the council's Services Committee, told Gulf News on Saturday that the council will discuss with telecom companies the issues regarding their services, poor telecommunication networks in many areas and seek cheaper internet packages. Al Yahya said it will be a closed-door meeting in the Shura Council building. However, social media users have demanded transparency and have called for the telecast of the meeting on Oman TV channel. The telecom firms — Omantel and Ooredoo — are under intense pressure after a boycott launched on social media by customers protesting against the high prices and low quality of services. The two-hour boycott, which required a shutdown of all telecom services, started on October 10 and it runs between 4pm and 6pm every day. Mobile phone users were requested to switch off their phones or put them on flight mode. The hashtag launched by the campaigners, "Boycott of Omantel and Ooredoo", was the top trending hashtag in the country on Twitter for more than a week. Al Yahya and some other Shura members joined the boycott campaign. "The campaign to boycott the telecom firms was well-organized and was happening for the first time in the country, and had put more pressure on telecom service providers every day since then," said Al Beloushi. State-owned Omantel is the primary service provider in the country, and Ooredoo, majority owned by Qatar Ooredoo, has fewer subscribers. Many mobile phone users complained about poor internet package offers provided by the telecom companies, high call rates and blocking of internet calling services. Thousands of users had also unfollowed Twitter accounts of the two companies to put more pressure on them. Campaigners also used other social media platforms like Facebook and WhatsApp, which had gone abuzz with boycott messages and videos, calling on everyone to boycott the telecom firms. Omantel's net profit for the first six months of 2016 was 66.8 million rials (Dh634.91 million), 9 per cent higher than the 61.3 million rials it made in the corresponding period last year, while Ooredoo Oman's net profit increased to 24.9 million rials in the first six months, compared to 22.2 million rials during the same period last year. (October 29, 2016) gulfnews.com

# Pakistan

Pakistan has established its first Internet Exchange Point (IXP) for all local ISPs that will help reduce latency rates for domestic traffic with-in the country to a greater deal. Internet Exchange Point (IXP) is a physical infrastructure through which Internet Service Providers (ISPs) and Contact Delivery Networks (CDNs) exchange internet traffic between their networks. The primary purpose of an IXP is to allow networks to interconnect directly, via the exchange, rather than through one or more third-party networks. Previously Pakistani Internet traffic was routed through foreign internet networks and exchanges, even for local (with-in Pakistan) traffic. This will change now as local peering will be allowed, ultimately resulting into lower pings and response times for domestic requests. Under the headship of Pakistan Telecommunication Authority and in collaboration with Internet Society (ISOC), this IXP has been established in the premises of Higher Education Commission (HEC). Syed Ismail Shah, Chairman PTA confirmed that IXP is up and running for last two weeks as a test. Dr. Shah said that hardware is being setup and exchange will formally be launched next month. Chairman PTA also said that more local internet exchanges will be set up in Lahore and Karachi soon. The IXP was one of the integral parts of the Telecommunication Policy 2015 that has been implemented now. Internet Exchange Point is used to exchange local internet traffic internally with-in the country between ISPs instead of looking-up international exchanges and networks. If a customer is using a local ISP and if a ping is sent for a website/server that is hosted on TransWorld for example, then traffic is routed through international exchanges that reside outside Pakistan. This traffic will now be routed within our local Internet Exchange after its set up. Such an internet request, which is local — and distance between client and server could be just few kilometers — has to travel the all way to an exchange that's hosted abroad and then will hit back local server after traveling thousands of kilometers, increasing latency rates and decreasing data transfer rates. This internet exchange is going to help local hosting companies, data centers, service providers, banks, corporations and everyone who is hosting websites/services locally with-in Pakistan. It will also benefit ISPs greatly by not only enhancing their performance but also by reducing their bandwidth costs. Ismail Shah said PTA has always encouraged new ideas and supported initiatives for the betterment of telecom sector. Setting up of IXP is one such new initiative that will help in improving internet access, business environment and local content. (November 14, 2016) propakistani.pk

Telecom sector has welcomed Pakistan Telecommunication Authority's initiative for spectrum sharing under the new IT policy. All the telecom companies (telcos) are carefully making their proposals in this regard as the PTA has asked all stakeholders to provide their inputs and comments by December 5, 2016. According to top officials in telecom sector, industry was demanding legislation for spectrum sharing. "We asked government during consultation on IT policy that there must be provision that if some company has additional spectrum then it could be sold to someone who requires it," official said. According to PTA, spectrum sharing means that if some company has excess spectrum, which it is not using and another company has demand for more spectrum then they both could trade it among themselves. However, the trading would be between existing operators. Spectrum trading occurs through the outright sale of the rights and obligations or term lease, subject to license conditions and approval by PTA or PEMRA under intimation to official said factors like spectrum capping shall be considered while developing such framework. The seller will pay a trading fee. A processing fee and any other applicable fee will be levied to cover re-issuing of licenses. The decision to trade is a commercial decision for the license holder. The terms of the trade will be a commercial agreement between licensees. Spectrum will be traded only if the relevant license that contains the spectrum assignment to be traded, permits trading. Spectrum assigned to a licensee without such a permit will not be traded unless federal government (MoIT) specifically authorizes the trade as being in the public interest. Only that spectrum that has been acquired through a pricing arrangement that represents its market value would be allowed to be traded. According to the policy, spectrum may be traded between holders of the same license type only. Spectrum will not be traded by any licensee with the necessary license conditions until the licensee has fulfilled its payment and roll out obligations unless it also transfers its roll out obligations with the trade and same is verified and authorized by PTA. The eligibility for receiving spectrum through a trade will be the same as the eligibility for assignment of spectrum by FAB. The acquirer of spectrum will be required to obtain (or already hold) the appropriate telecommunications license and to meet the terms of that license. The framework for spectrum trading will take into account the effects of such trading on competition, national security, public health and safety, compliance with the national laws and policies and compliance with international obligations and international relations. Swapping of spectrum will be considered as a two-way spectrum trade subject to approval by PTA and FAB. (November 14, 2016) nation.com.pk

## Palestine

Palestine Telecommunications Co has suffered massive losses due to the spread of Israeli SIM cards in the Palestinian territories, said a senior company official. According to Ammar Al Aker, the company's Chief Executive Officer (CEO), the number of Israeli SIM cards has recently spiked in the West Bank. Speaking at the announcement of a company-sponsored conference, Expotech 2017, Al Aker said that before 2015, the number of Israeli SIM cards in the West Bank was estimated at 150,000, but in 2015 the number rose to 370,000 cards. "This represents totally unfair competition between the Palestine Telecommunications Company and its rival Israeli counterparts, who offer 3G and 4G coverage to the Palestinian market," he said. "Because of this unfair competition, the Palestinian telecommunication sector is losing $100 million annually." Al Aker said that Israeli SIM cards allow the residents of the West Bank to enjoy 3G coverage, whereas the Palestine Telecommunications Company is restricted by Israel to the use of 2G coverage effectively forcing the company out of the market. He noted that the 3G coverage allows users to benefit from communication applications without the need for a WiFi connection. He also noted that the two Palestinian mobile phone companies have been making the necessary preparations to switch to 3G coverage in order to offer this service to the Palestinian market. Palestinians often complain that the less visible economic aspect of Israeli occupation means that the 4 million strong Palestinian population living under Israeli occupation in the West Bank and Gaza is often used as a lucrative market for Israeli goods and services, hindering the ability of Palestine's own economy from growth. Palestinians have often retaliated against Israel by organizing mass boycotts of the occupation regime's products, but Israeli restrictions placed on Palestinian industry often leave Palestinians with no choice but to buy from across the Green Line. The Palestinian Ministry of Telecommunications strictly forbids shops from selling Israeli SIM cards in the West Bank, and fines and prosecutes violators. However, with a large number of Palestinians working inside the Green Line, it is difficult to control its use in the West Bank. West Bankers prefer the Israeli SIM cards, which provide low rate options compared to those offered by Palestinian companies. Abu Hassan, a Palestinian who works in 1948 areas, said that Palestinian services cannot compete with what the Israeli services and rates offer. "Subscribers with Israeli telecom companies pay less than one fourth of what Palestinian companies would charge for much older technology." Palestinians whose villages and towns are located close to Israeli colonies, where they can get good reception, often exclusively subscribe to Israeli Telecom companies. In November 2015, Israel and the Palestinian National Authority (PNA) signed a Memorandum of Understanding paving the way for the deployment of a 3G service for Palestinian cellular companies. The Oslo Accords of 1993, signed between the Palestine Liberation Organization and Israel, regulates the frequencies available to cellular companies in the Palestinian territories. Israel has been restricting access to 3G coverage as a collective punishment against the Palestinian people. (November 14, 2016) gulfnews.com

# Qatar

The Communications Regulatory Authority (CRA) issued 31 violation notices for establishments using or selling equipments without valid licenses, as discovered during a routine inspection recently. The most common defaulters were the shops selling mobile phones without a valid license. The notice entails the non-compliant shops to regularize their license or to obtain the right license if they do not have one. If the appropriate licenses have not been obtained, CRA is empowered to take legal action against the defaulters. CRA manages Qatar's radio spectrum, and conducts routine inspections to ensure compliance with the Telecommunications Law. Radio and telecommunication equipment includes, but is not limited to, mobile phones, wireless local area networks (WLAN), and short range devices (SRD). Earlier in April this year, CRA issued 48 violation notices. More than 50% of those violations have been rectified by the business owners. Legal action will be taken against the businesses that have failed to rectify their violation. Anyone residing in Qatar can request a CRA inspection if they suspect a business is selling or using unauthorized radio and telecommunication equipment at any location in the country. To request an inspection, or to apply for an import authorization, one can type approval and customs clearance certificate, contact CRA by e-mail at spectrumaffairs@cra.gov.qa. (November 16, 2016) commsmea.com

# Saudi Arabia

The arbitration panel announced their judgment in relation to the disputed SAR 2.2 billion claim by Etihad Etisalat ("Mobily") from Mobile Telecommunication Company Saudi Arabia ("Zain") arising from the services agreement signed between the two parties on May 6, 2008. The arbitration panel allocated Mobily SAR 219,464,509, amounting to less than 10% of Mobily's claim. Hassan Kabbani, CEO of Zain Saudi Arabia commented, "I trust that this judgment brings to an end this legacy issue that has overshadowed both companies, and indeed the entire telecommunications sector in the Kingdom. Throughout the arbitration proceedings we have acknowledged that Zain owed Mobily a modest amount. As Zain maintained adequate financial provision to cover this amount, I can confirm that the judgment amount of SAR 219 million will have no additional impact on the Company's net earnings." He continued, "I would like to thank our team of legal advisors, technical experts, accounting experts and of course the team at Zain for their support over the last two years." Kabbani concludes, "Telecommunications by its nature is one of the most interconnected industries in the world. As a sector, we all need to put this legacy matter behind us and focus on achieving the strategic objectives of Vision 2030 for the benefit of the Kingdom and all consumers." Zain Saudi Arabia highlights the professionalism and transparency of the Riyadh Chamber of Commerce's new commercial arbitration guidelines, which greatly contribute to maintaining the confidence and trust in the Kingdom's business environment. The arbitration proceedings commenced in December 2014 following a formal claim by Mobily for SAR 2.2 billion from Zain. Zain rejected the claim, stating that it arose from Mobily's unilateral revocation of amendments to the 2008 Services Agreement, agreed between the parties. (November 22, 2016) eyeofriyadh.com

Zain Saudi is considering introducing new services such as fiber-optic internet access in Saudi Arabia after securing a unified concession earlier this month. Andrew White, Zain Saudi's chief strategy and business development officer, said: 'We are currently studying exactly what it makes sense for us to do,' adding that the company does not plan to spend billions of riyals on new infrastructure when the kingdom already has several networks in place. In mid-October Zain signed an open ended Letter of Intent (LoI) with Dawiyat Telecom, a wholly-owned subsidiary of the Saudi Electricity Company (SEC), which will allow Zain to leverage SEC's 51,000km fiber-optic network. 'There's a great opportunity for us to selectively identify areas where there is a sensible demographic, economic capacity and demand for fiber coverage, and where others haven't rolled out yet,' the executive said. (November 7, 2016) The National

Telecoms regulator the Communications and Information Technology Commission (CITC) has confirmed that it has awarded mobile network operators and ISPs – namely Saudi Telecom Company (STC), Etihad Etisalat (Mobily), Zain Saudi and Etihad Atheeb (GO Telecom) – with unified telecoms licenses, thus allowing them to provide mobile, fixed telephony and data services. The new licensing system will allow increased competition and subscriber options through enhancing network efficiency and cutting costs, the CITC said in a press release. Earlier this month, the government issued Royal Decree No. 61534 directing the CITC to provide the kingdom's operators with unified telecoms licenses and to extend their licensing periods by 15 years.
(October 31, 2016) telegeography.com

## Sri Lanka

The government of Sri Lanka, in conjunction with the Information and Communication Technology Agency of Sri Lanka (ICTA), has chosen Sri Lanka Telecom (SLT) to be the full communication service provider and infrastructure provider to the next phase of the Lanka Government Network (LGN 2.0). The project is designed to provide ultra-high speed services to government institutions over a single unified network. The ministry and the ICTA said they awarded the LGN 2.0 contract to SLT as it is considered the only license holder in the country with 'the ability to deal with last mile fiber-optic solutions as well as the national backbone network'. The company has already deployed LGN 1.0 – setting up a fiber-optic network covering 315 government establishments. (November 17, 2016) telegeography.com

## Tunisia

The Telecommunication Regulatory Authority (TRA) is participating with a high-level delegation at the World Telecommunication Standardization Assembly (WTSA) meeting which started on October 25 in Yasmine Al Hammamat City in Tunisia and will continue until November 3, 2016. The meeting is held every four years with the participation of official delegations from various countries in addition to more than 1,000 guests interested or involved in the information and communications technology (ICT) sector. This year's edition will once again gather senior government officials, experts, operators, manufacturers, academics and other stakeholder organizations. The TRA is the official Gold Sponsor for the assembly's celebration of the standardization sector's 60th anniversary. The agenda of the meetings include discussions on security, privacy and reliability in ICT, as well as conformity, quality adoption, operational ability and interconnection. Also to be highlighted are amendments to internal procedures for the standardization sector within the International Telecommunication Union and the disabled's right to access ICT services. The election of committee president and vice president for the study committee on standardization will also be held, with UAE nominated for two important positions: as president of the 20th study committee, the committee responsible for the Internet of Things and smart cities, and vice president for the 2ndstudy committee responsible for digitalization. Mr. Majed Al Mesmar, TRA Deputy Director General for Telecommunication Sector and head of the UAE delegation, said during the 60th anniversary celebration that the accelerated developments in the sector in recent years have put pressure on the importance of finding solutions through international collaboration in the field. It is important to formulate standards, regulations, specifications to guarantee security and privacy through the new development of ICT. "The amount of data that humanity can produce in two days now is equivalent to what civilizations have produced since ancient times up to the beginning of this millennium. That is what we call big data which is not latent or diminished, but flows in various directions, sending information not only between humans, but also among devices or the so-called machine-to-machine connectivity (M2M) and Internet of things (IoT). These developments are the main features of smart cities and are accompanied by challenges in terms of security, privacy and interface integration," he added. It is worth to highlight the special preparations of the Arab Group and the coordination with other regional groups to share views and unify positions whenever possible. The UAE is the vice president of the Arab team in charge for preparing for the World Telecommunication Standardization Assembly in the current session. (November 3, 2016) arabbrains.com

## Turkey

The Russian Investor Mikhail Fridman could increase his indirect ownership of Turkish mobile leader Turkcell after fellow shareholder Cukurova failed to declare its intent to buy a disputed 13.2% stake by a court deadline, a source close to the matter said. Russian conglomerate Alfa Group, part of Fridman's business empire, has been locked in a decade-long dispute for control of Turkcell with Cukurova, run by Mehmet Emin Karamehmet, Turkcell's founder and one of Turkey's richest men. Fridman is chairman of both the Alfa Group Consortium supervisory board and Luxembourg-based investment group LetterOne Holding (affiliated but not directly linked to Alfa Group), and is also a director at both multinational telecoms group VimpelCom (a subsidiary of LetterOne's L1 Technology division) and Alfa Bank (part of Alfa Group) whilst the US Securities & Exchange Commission (SEC) lists Fridman as a beneficial shareholder of VimpelCom. A London tribunal had set a deadline of November 18 for Cukurova to choose to either buy

Fridman's indirect Turkcell shares for US$2.7 billion or sell its own stake to Fridman for US$2.8 billion, Reuters continued. 'Now in line with the court decision, the option of buying has moved to Alfa,' the source said, declining to be named because none of the parties involved had yet commented on the matter. Fridman indirectly controls 13.2% of Turkcell, while Karamehmet indirectly holds 13.8%; Sweden's Telia Company claims a 37% share. The anonymous source added that under the terms of the London tribunal ruling, Alfa or its affiliates has the right to buy Cukurova's Turkcell stake by a deadline of November 28. Earlier this month Russian investor VTB Group said it had reached an agreement for joint investment in Turkcell with Alfa Group. (November 22, 2016) reuters.com

# United Arab Emirates

TRA Director General, H.E. Hamad Obaid Al Mansouri, in his speech during the opening ceremony of the ITU Telecom World 2016 in Bangkok, Thailand, emphasized on the need to understand the value of collaboration as a way to assess the degree of true innovation required within the ICT industry. Mr. Mansouri drew attention to aligning international standards and policies to effectively respond to fast emerging technologies and their impact on humanity. Mr. Mansouri mentioned that while challenges will continue to exist, horizons too will be open wide for great achievements if nations and concerned stakeholders joined hands toward mutual causes. Mr. Mansouri stated that "The spirit of [the UAE's] story is cooperation and unity. This was the culture and directives of our founding fathers who brought together seven small and conflicting emirates into one progressive state, now called the United Arab Emirates. We believe that the ITU also creates the model environment where nations can work together to achieve success for all." The TRA DG's message shed light on the UAE's contributions toward realizing the value of international cooperation for the benefit of the human society. As a part of his government's vision to prepare the future generations for the challenges ahead, Mr. Mansouri mentioned that the UAE has "launched the Mohammed bin Rashid Smart Learning Program, a 1 billion dirham program that is a part of Vision 2021 and will be introduced in four stages over five years, fully supported by the telecom sector and financed by our national ICT Fund." Addressing a large audience of government and business leaders, the TRA's DG, on behalf of the UAE government, also expressed deep condolences and sympathy to the people of Thailand on the demise of their beloved monarch, King Bhumibol Adulyadej, who passed away on October 13, 2016, and was the world's longest serving constitutional monarch. The ITU Telecom World 2016 is being held from November 14 to November 17 and is hosted by the government of the Kingdom of Thailand in Bangkok, one of Asia's most cosmopolitan cities. As an ITU-D sector member, SAMENA Council is also participating in Telecom World, during which it has chaired the 7th Private Sector Chief Regulatory Officers' (CRO7) Meeting, a private-sector representative forum composed of telecoms technology companies and other stakeholders from around the world. (November 23, 2016) samenacouncil.org

The Telecommunications Regulatory Authority (TRA) has announced its participation at RSA Conference 2016 Abu Dhabi, held in partnership with the UAE National Electronic Security Authority (NESA) from November 15 -16 . Acting Deputy Director-General of Information and eGov Sector, TRA, Mohammed Al Zarooni, will deliver the opening keynote session. "The TRA plays an integral role in ensuring that electronic conversations within the UAE are conducted securely. Our participation in RSA Conference reflects our deep belief in the need to spark conversation and exchange of expertise regarding information security in the region. We will use the experience gained to further our strategic vision of promoting a safe cyber culture in the nation," said Al Zarooni. "We are proud to announce that TRA will be opening RSA Conference 2016 Abu Dhabi. We look forward to Al Zarooni's keynote, which will give attendees a unique insight into the telecommunications industry in the UAE and the importance of information security," said Linda Gray Martin, GM, RSA Conferences. (November 16, 2016) wam

Etisalat announced the roll out of IPv6, the latest standard in internet addressing technology enabling every device to have its own IP address and connect directly to the Internet. IPv6 is the future of internet addressing and is now rolling out across the UAE for all Etisalat eLife customers. IPv6 will enable many new and innovative services including smart homes, connected wearables, smart power grids while acting as the foundation for billions of machine-to-machine devices to communicate directly via the Internet of Things. (November 16, 2016) gulfnews.com

Etisalat's active subscriber base in the UAE grew five per cent to 12.2 million subscribers while the mobile subscriber base grew year on year by seven per cent. As of September 30, the Group had an aggregate subscriber base of 162 million compared to 170 million during the same period a year ago. "The robust and constant growth of Etisalat Group is underpinned by our continued investments in next-generation services and solutions that add tremendous value to the communities we serve and enhance the customer experience," Saleh Al Abdouli, CEO of Etisalat Group, said in a statement. (October 26, 2016) gulfnews.com

# REGULATORY ACTIVITIES BEYOND THE SAMENA REGION

## Argentina

The government has announced the creation of a new national register of mobile device users. Cellular network operators will be responsible for funding and implementing measures to identify all mobile users on their networks, and must ensure the information is available to the judiciary and state prosecutors. According to the country's official gazette, the undertaking represents a joint initiative between the Ministry of Communications and the Ministry of Security. The decision was formalized by Joint Resolution No. 6, as signed by the two agencies late last month. The creation of the database is expected to assist the authorities in combating robbery and organized crime, and should also help to eliminate the black-market trade for stolen mobile handsets. According media reports as many as 5,000 mobile phones are stolen in Argentina every day. (November 16, 2016) La Nacion

Ministry of Communications has extended the timeframe for the development of the country's new Communications Act (Ley de Comunicaciones) by 180 days, according to media reports which cites a resolution published in the Official Gazette. The new law is designed to reform, update and unify the Audiovisual Communication Services Law (Law No. 26,522) and 'Argentina Digital' (Law No. 27,078), taking into account the convergence of networks and services. The overhaul follows the creation of a new regulator earlier this year, the National Entity for Communications (Ente Nacional de Comunicaciones, ENACOM), which was formed through the merger of the Federal Authority of Audiovisual Communication Services (Autoridad Federal de Servicios de Comunicacion Audiovisual, AFSCA) and the Federal ICT Authority (Autoridad Federal de Tecnologias de la Informacion y las Comunicaciones, AFTIC). (November 2, 2016) Politica Argentina

## Australia

The government of Australia has been 'forced' to provide a further AUD19.5 billion (US$14.3 billion) in funding towards the construction of the National Broadband Network (NBN). The government must provide the extra funds to nbn – the state-owned company overseeing the national rollout – in the form of a loan. In May 2016 the government had estimated that completion of the new network would cost between AUD16.5 billion and AUD26.5 billion. The coalition government has come under fire for its policy to change the NBN rollout from a predominantly fiber-to-the-home (FTTH) deployment to a multi-technology mix, involving less robust and future-proof standards. The coalition's initial intention was to cap spending on the network to AUD29.5 billion; however, this contribution is expected to run out in the current financial year, says Communications Minister Mitch Fifield. (November 21, 2016) telecomasia.net

## Cambodia

The Cambodian government has announced plans to hold a public auction for two 4G LTE concessions in the 800MHz and 2600MHz bands, after the original license holders failed to utilize them. Spokesman for the Ministry of Post and Telecommunications Cambodia (MPTC), said the government will give telecoms companies the chance to bid for the licenses under a new 'comparative tender process' that will also take into account how the companies intend to utilize the frequencies. Previously, the government sold spectrum licenses on a first-come, first-served basis. The official said: 'This is the first time to open licenses to a public bid for all mobile operators, as we want to expand the quality of service (QoS) to the consumer … This is a new model that allows us to get more revenue for the state, and we will no longer be selling frequencies on a first-come, first-served basis, as before.' Mobile network operators will have until December 1 to submit their bids, with all successful shortlisted bidders scheduled to be notified by the end of the year. (November 4, 2016) The Phnom Penh Post

The Telecommunication Regulator of Cambodia (TRC) is preparing legislation for the potential introduction of a new tax to fund the deployment of telecoms networks in rural areas of the country. TRC spokesperson Im Vutha told that regulator plans to impose a 3% tax on the gross revenue of the country's telecoms operators in the first half of next year. The legislation will not likely to be ready until 2017, and will also require government approval. According to Mr. Vutha, the proposed tax will finance a new Universal Service Obligation (USO) Fund, to be managed by the Ministry of Posts and Telecommunications Cambodia (MPTC), and will also be spent on research and development. (October 27, 2016) The Khmer Times

## Canada

The Canadian Radio-television and Telecommunications Commission says that Bell, Rogers and Telus should share fibre access or face enforcement. The head of Canada's regulator has waved the threat of structural separation at the country's three big operators if they resist wholesale access by competitors. Jean-Pierre Blais, chairman of the Canadian Radio-television and Telecommunications Commission (CRTC), pointed towards Australian and UK solutions that allow competitors equal access on a wholesale basis to last-mile connections to homes and businesses. "If the winds of change blow too hard and they refuse to bend in the wind, the tree may break at the trunk rather than lose a few leaves," Blais told Bell, Rogers and Telus in a speech. Addressing the annual conference of the Canadian chapter of the International Institute of Communications, Blais invited the industry "to look abroad. In Australia and the UK, for example, consumer pressure and government policy has resulted in, or is seriously contemplating, the structural separation of broadband providers between wholesale and retail." In Australia the government-backed National Broadband Network has taken over Telstra's last-mile network and provides equal access to all operators. In the UK, BT subsidiary Openreach has a similar role, which is being strengthened after a review by the regulator, Ofcom. In Canada, "large companies will have to share their fiber networks with competitors, in order to give Canadians more choice of faster internet service that will power the broadband home and business of the future", said Blais. "We also believe that consumers ought to have the freedom to change their service providers – television, wireless, internet or otherwise – as they see fit. We stripped away the requirement that consumers give 30 days' notice prior to cancelling their services." Blais also defended the CRTC's stance on net neutrality, pointing to moves the regulator has taken against Bell Mobility – Bell Canada's mobile arm – and cable operator Videotron, each of which offered their own content to mobile customers without it counting towards data charges. "Their competitors, however, were not afforded the same privilege," said Blais. "Content that their subscribers watched from other websites or apps counted against their data cap. We ordered Bell and Videotron to eliminate such exemptions. We want an open and fair marketplace for mobile TV services to spur innovation and choice for Canadians." Blais criticized operators that say such decisions stifle innovation. "I couldn't disagree more. We're all for innovation. We want broadcasters and telecommunications providers to move their industries forward by creating new content and opening new channels for consumers to access media. But when the drive to innovate steps on the toes of the principle of free and open access to content, we will intervene. Abuses of power in the system will not go unchecked." (November 21, 2016) globaltelecomsbusiness.com

## Croatia

The Agency for the Protection of Competition (AZTN) has opened an investigation into the proposed merger of Optima Telekom and rival ISP H1 Telekom, which was first announced in July this year. AZTN says the deal could have a 'significant effect on competition in the relevant market that involves the provision of electronic communication services in fixed line networks in the territory of the Republic of Croatia, both at the wholesale and the retail level'. The two firms have previously said that they hope to complete their tie-up in January 2017. Optima is currently under management control of incumbent operator T-Hrvatski Telekom (T-HT) after running into financial difficulties in 2013. (November 16, 2016) telegeography.com

## El Salvador

The Electricity and Telecommunications Superintendency (SIGET) is preparing an auction of 120MHz of mobile spectrum and will launch the process by the end of the year, media quotes the regulator's head, Blanca Coto, as saying. 'We are [aiming] to start the bidding process to broaden the spectrum available for mobile telephony, and to expand access,' she revealed. The process has been delayed after competition regulator the Superintendencia de Competencia (SC) suspended a tender for 40MHz of nationwide mobile spectrum in the 1900MHz and 1700MHz/2100MHz (AWS) bands back in October 2013. Eventually, amendments to the Telecommunications Law concerning the allocation of spectrum were approved by the government in May 2016, including changes in the procedure of assigning frequencies and an alternative mechanism to the auction, indicating that the process was set to be resumed. (November 14, 2016) La Prensa Grafica

## Germany

The Federal Network Agency (FNA) has submitted a proposal for 'layer 2 bitstream access' charges to the European Commission (EC) for approval. The regulator has suggested that incumbent telco Telekom Deutschland (the domestic operating unit of Deutsche Telekom) may charge a fee of EUR15.70 (US$16.66) per month for access to ADSL connections, EUR18.56 for the VDSL 16Mbps/25Mbps/50Mbps options (or EUR16.55 per month if competitors commit to a certain number of lines upfront under Telekom's 'contingent model') and EUR19.10 for VDSL 100Mbps connections. The EC and the Body of European Regulators of Electronic Communications (BEREC) now have one month to submit their comments on the FNA's proposals, and if no serious doubts are raised during this period, the charges can then be put into effect. Last month the FNA published, and provisionally put into force, Telekom Deutschland's amended and supplemented reference offer for layer 2 bitstream access. The expedited decision implementing the layer 2 bitstream reference offer was necessary, as from 1 November 2016 Telekom is obliged, when it deploys vectoring outside proximity areas (outside a radius of 550m from a main distribution frame), to offer its competitors a layer 2 bitstream product as a substitute for access to unbundled loops. Prior to this date, it was sufficient for Telekom to offer IP-based layer 3 bitstream access. (November 22, 2016) telegeography.com

The Federal Ministry of Transport and Digital Infrastructure (BMVI) has unveiled plans to transform the country into a 'Gigabit Society' by the end of 2025. The plan outlines the development of a comprehensive, coordinated four-stage strategy for the accelerated and targeted expansion of digital infrastructure across the country. The first phase runs until the end of 2018 and will aim to achieve universal access to broadband internet speeds of at least 50Mbps for all households, while the second stage (until the end of 2019) will see underserved industrial areas equipped with fiber-optic technology. Under the third phase, the regulator must ensure that the conditions for the deployment of 5G mobile technologies, including the relevant frequencies, are in place by the end of 2020 and in the final phase, the government is aiming to have in place a Gigabit-capable converged infrastructure. (November 10, 2016) telegeography.com

## Greece

The government has transferred a 5% stake in national fixed and mobile operator OTE to the country's privatization agency TAIPED ahead of a planned sale. The state currently holds a 10% interest in the telco, but has said it will halve this as part of a wider raft of privatizations which were agreed under an international financial bailout. OTE's 40% shareholder, Deutsche Telekom (DT) of Germany, has the right of first refusal on the shares. There has been some opposition to the sale, however, with critics – including trade unions – saying that the government should not reduce its interest in a strategically important company.
(November 21, 2016) reuters.com

The telecoms regulator, the Hellenic Telecommunications & Post Commission (EETT), is proposing to deregulate the market for retail fixed telephony access. The watchdog is also looking to increase regulation of the wholesale markets for 'local and central access at a fixed location' where incumbent operator OTE is adjudged to hold significant market power. The EETT proposes to impose specific regulatory obligations to promote the smooth introduction of VDSL vectoring technology in the access network which will give end users connectivity at speeds of up to 100Mbps, thereby helping Greece meet its EU Digital Agenda 2020 targets.
(November 2, 2016) telegeography.com


## GSMA

There are still three years to go until the World Radiocommunication Conference 2019 (WRC-19), but that didn't stop the GSMA from kicking off a 5G lobbying campaign targeted at the event this week. The industry body emphasized the importance for governments and regulators to agree a common set of 5G spectrum bands at WRC-19, warning that fragmented spectrum could drive up device costs, raising a barrier to widespread, affordable services. "Governments are central to the WRC-19 process to identify harmonized spectrum for 5G and incentivize the necessary network investment," said John Giusti. The powers that be need to free up as much spectrum as possible for 5G services, the GSMA said, and should focus on three frequency ranges:

- Sub-1 GHz, which is useful for widespread coverage and IoT services.
- The 1 GHz-6 GHz range, which offers a good mix of coverage and capacity. The GSMA said frequencies in the 3.3 GHz-3.8 GHz range are expected to underpin many initial 5G services.
- Above 6 GHz, which will be needed to support ultrafast broadband and bandwidth-hungry 5G services. A focus will be on bands above 24 GHz, the GSMA said.

"Although the mobile industry, academic institutions and international standards-making bodies are developing the technologies central to 5G, success will depend heavily on affordable access to the necessary amount of spectrum," Giusti said. As well as making plenty of 5G spectrum available, governments must also adopt policies that encourage long-term, heavy investment in network infrastructure, the GSMA said, noting that 5G networks will necessitate the deployment of large numbers of small cells. (November 15, 2016) totaltele.com

## Honduras

Honduras has begun preparing a tender to attract the country's fourth mobile operator, reports local media citing Ebal Diaz, President of telecom regulator CONATEL. The aim is to auction spectrum in the 900MHz and 2500MHz bands with a view to persuading international operators to invest in the country. "Competition is always healthy… and we need to increase broadband penetration," said Diaz, adding that "we currently have two operators and the state-owned one, which has to grow." The three mobile operators – Tigo, Claro and Hondutel – share around 7.7 million active lines, although Tigo and Claro account for 99 percent of those. An earlier report suggested that the entry of a new operator could result in US$ 400-700 million of investments over four years and the creation of 3,000 new direct and indirect jobs.
(November 22, 2016) El Heraldo

## India

India's Department of Telecommunications (DoT) has issued a notification introducing new rules to regulate optical fiber and mobile tower infrastructure, effective from November 15, 2016. The Indian Telegraph Right of Way Rules, 2016, establishes a standard framework for licensees to secure permissions for the installation of underground and 'overground' infrastructure from local authorities. The regulations set out standardized application processes for the two network types, detailing the specific documentation and information that the licensee must provide. Authorities must respond to the application within 60 days, having assessed the application based on criteria stipulated in the new rules, either approving the application or rejecting it, although the authority must provide the reasons for the rejection in writing and allow the provider to respond. The rules also include the authority's right to supervise the construction work, with the ability to impose additional 'reasonable conditions'. Also included are formalized processes for authorities to request the removal of infrastructure and for dispute resolution. Director General of industry group the Cellular Operators Association of India (COAI) Rajan Matthews welcomed the move, with the Economic Times quoting the official as saying: 'It is a great move to assist the industry with improving the quality of service experience of customers. This will provide a great fillip to expanding cell sites coverage as well as fiber implementation to support broadband services.' The new rules are expected to relive several issues impacting India's telecoms industry, most importantly the ongoing battle between telcos and authorities over cell sites and service quality. Fears over radiation from cell sites have led to the forced closure of many sites, and municipal authorities have opposed the deployment of new infrastructure, contributing to issues of dropped calls and poor service quality. The new rules are expected to resolve the matter, simplifying the process for operators to roll out new infrastructure and limiting authorities' capacity to arbitrarily block the construction of new sites.
(November 21, 2016) telegeography.com

State-owned Indian telecoms provider Bharat Sanchar Nigam Ltd (BSNL) has approached India's Department of Telecommunications (DoT) with a view to buy a 5MHz block in the 700MHz spectrum band via the equity route, The Hindu writes. BSNL Managing Director Anupam Shrivastava was cited as saying: 'We are proposing that 700MHz spectrum comes to us and in lieu of that, the paid-up equity of the government can increase to that extent in BSNL.' The 700MHz band, which was made available for the first time in the auction and carried a price tag of more than INR4 trillion (US$59.8 billion) for the entire holding across all 22 circles, saw no interest from the bidders due mainly to high prices. Premium radiowaves in the 700MHz band were set at a base price of INR114.85 billion, and industry body the GSMA have urged the government to reconsider their fees in order to encourage buyers.
(November 7, 2016) telegeography.com

Telecom Secretary J S Deepak said that his department will start working on a new telecom policy from 2017 with focus on the growth of the sector as well as to meet requirements of next generation technologies. Participating in the Indian Telecom 2016 event organized jointly by Department of Telecom and FICCI here, he said that the government will start working on the new policy in April 2017, which would actually be 25 years of commencement of wireless revolution in this country. However, he also said that before commencing work on the new policy, the DOT has to implement all the reforms announced in 2012 policy and that most of the features will be executed by March. The secretary also announced that the government has notified abolition of wireless operating license, a move that would facilitate ease of doing business. So far, telecom service providers are required to obtain a separate license for installing and operating base stations as also other wireless equipment, which is already covered as part of their main licenses like the Unified Access Service License. "The Wireless Advisor office is working with determination in making SACFA (permit for installing towers) automated end-to-end," he said. Though telecom operators contribute about Rs 5,000 crore in a year in Universal Services Obligation Fund -- meant for expansion of telecom services in rural areas, average annual expenditure has been about Rs 3,000 crore. "This year in 2016-17, compared with Rs 1,200 crore expenditure from USOF last year, we hope to bring that expenditure to Rs 12,000 crore," Deepak said.
(November 2, 2016) deccanherald.com

## Italy

The government has announced plans to free up frequencies to launch trials of 5G technology in three as yet unnamed Italian cities next year. Italy "is deeply convinced of the benefits of 5G technology, so much so that in 2017 we will trial it in three cities, one in the north, one in the centre and one in the south, using part of the spectrum," said Italian undersecretary for economic development in charge of telecommunications Antonello Giacomelli at the Global 5G Event in Rome hosted by the 5G Infrastructure Association - Public Private Partnership (5G PPP). The trials are set to take place on the 3.4-3.8 GHz band, although Giacomelli also denied any delay in Italy's plans to free up the 700 MHz frequencies for mobile use, saying the country was fully in line with the European Council's decision to set a 2022 deadline to vacate the band. At the same event, Vodafone Italia CEO Aldo Bisio welcomed the undersecretary's proposal and, according to Corriere della Serra, commented that "after the trial stage [Vodafone envisages] the 5G coverage of three major Italian cities by 2020." Telecom Italia Chairman Giuseppe Recchi likewise revealed plans to press ahead with the rollout of 5G services. "We are currently considering which northern cities to choose to start trials of 5G, to ensure that we have the first city covered with this technology in 2020," he said. (November 10, 2016) telecompaper.com

VimpelCom and CK Hutchison have announced the completion of the transaction to combine their respective businesses in Italy, Wind Telecomunicazioni and 3 Italia. The two Italian firms are now under the joint control of the parent companies. More details of how the EUR21.8 billion (US$24.7 billion) merger will progress going forward are due to be released by November 8. The combination of Wind and 3 has created Italy's largest mobile operator, with over 31 million subscribers, while Wind also brings around 2.7 million fixed broadband customers. Jean-Yves Charlier, Chief Executive Officer of VimpelCom, commented: 'Customers will see real benefits in terms of call quality and strengthened data services as soon as 2017, as the two companies integrate their networks and combine their engineering prowess. The new company looks forward to delivering on the EUR700 million run-rate of annualized Opex and Capex synergies that the transaction will bring.' (November 7, 2016) telegeography.com

## International Telecom-munication Union (ITU)

Telecom World 2016 wrapped up proceedings at IMPACT Convention and Exhibition Center, Bangkok, following an action-packed programme of showcasing, debate, networking and Awards. The event, which was formally opened in the presence of H.R.H Princess Maha Chakri Sirindhorn, Kingdom of Thailand and General Chan-o-cha Prayut, Prime Minister, Kingdom of Thailand included big names, countries and SMEs from around the world and welcomed over 8,800 participants. Among the high-level guests in attendance were: H.R.H. Tapouto'a Ulukalala, the Crown Prince of Tonga; Xavier Bettel, Prime Minister of Luxemburg; Charlot Salwai Tabimasmas, Prime Minister of Vanuatu; Debretsion Gebremichael Deputy Prime Minister of Ethiopia; and Mukhisa Kituyi, Secretary General of UNCTAD. Some 250 Exhibitors, including 107 exhibiting tech-SMEs and 60 partners and sponsors took part in the event. Over 330 leaders from 90 countries joined the debates, including top-level representatives from Hungary and the Republic of Korea - past and future ITU Telecom World host countries. "From its high-level Forum debates to the activities on the show floor, ITU Telecom World has successfully moved towards becoming the truly inclusive international platform connecting tech-SMEs with global governments and industry leaders," said ITU Secretary-General, Houlin Zhao. "The dialogues, showcases, networking and other activities I have joined this week have given all our community and stakeholders - be they senior government officials, international organizations, leading corporate players or SMEs - the chance to examine issues vital to accelerating ICT innovation, and explore the many ways in which ICTs can help meet the SDGs." "Thailand is pleased to be the host of the very successful ITU Telecom World 2016," said Air Chief Marshal Prajin Juntong, Deputy Prime Minister and Acting Minister of Digital Economy and Society. "I have received positive feedback from Thai participants that the event has been extremely useful in showcasing Thailand's thriving digital economy and society and, importantly, demonstrating innovations and entrepreneurship which are key drivers for national development today. The event and speakers have provided many lessons and case studies on how the government's forward looking and inclusive digital economy policies are being turned into action by the private sector including SMEs and start-ups." The Exhibition featured the types of technology driving our digital economy, from 5G and cloud computing to smart devices, smart city solutions and national broadband plans, as well as investment and partnership opportunities from around the world. Reflecting the significance of ICT across key verticals, ITU welcomed new vertical sectors to the event, such as MasterCard, Honda or Toyota, joining debates in sessions such as the Connected Car or Cashless Future.

**Leadership Summit & Forum debates**

162 speakers from 55 countries took part in plenaries, panel debates, workshops, high-level roundtables and networking sessions in the Forum and at the Leadership

Summit. Speakers spanned heads of state and governments from across the globe, leaders from the ICT industry and key verticals, SMEs, entrepreneurs and innovators to international organizations and academia. They provided truly global perspectives and viewpoints from developed and developing countries alike. Discussions launched with the Leadership Summit, on 14 November, which brought highly influential participants together to share views and explore why working together is so important for growing the digital economy. Forum sessions delved into an exciting set of topics such as AI, how ICTs can meet the UN's Sustainable development goals (SDGs), the connected car, digital financial inclusion and fiscal incentives and taxation in the industry. Other debate highlights included the B2G and B2B dialogues, the Ministerial Roundtable on the crucial role of governments in advancing digital economy; Economic and Industry Roundtable, bringing together global ICT consulting firms, R&D entities, regional and international organizations; and the Asia Pacific Exchange on Broadband Regulation and Policy (co-hosted with Huawei). The event showcased sponsored sessions on topics spanning 5G, reaching the next billion, digital financial services, towards a digital Nigeria and enabling third network services for the digital economy. Key players included Huawei, KT, Japan's MIAC, GTI, China Mobile and TDIA, Intel, MasterCard, GSMA/GSA, Nigeria and MEF. Panel lunches hosted by the Smart Africa Alliance and CITRA, helped facilitate networking and discussion, along with high profile networking occasions, such as the Leaders Lunch, sponsored by Huawei, or Korea night sponsored by ITU Telecom World 2017 host, Republic of Korea's MSIP. Networking breaks sponsored by Rohde & Schwarz and URCA of the Bahamas helped ensure conversation continued between Forum sessions.

**Global Platform**

As the international platform connecting ICT SMEs with corporations and governments, it was no surprise that high-level participants used the opportunities and influential audience that the event offered to conclude many important agreements between business and business (B2B), business and governments (B2G) and business and governments to UN, as well as launching new reports.

**ITU Telecom World Award**

The Event Closing and ITU Telecom World Awards Ceremony brought ITU Telecom World 2016 to a close on the final day of the event and also saw the much-awaited announcement of the winners of the ITU Telecom World Awards. During the week of the event, finalists pitched their ideas and innovations to judges and a global audience. In keeping with ITU Telecom World's focus on SMEs and their role within the broader ICT ecosystem, these Awards recognized excellence and innovation in ICT solutions with social impact from SMEs and corporations alike. The winning entries included:

- Global SME Award: BRK, Kenya
- Host Country SME Award: ServisHero, Kingdom of Thailand
- Thematic Award (eGovernment): Nile Center for Technology Research (NCTR)
- Thematic Award (eHealth): Neofect, Republic of Korea
- Thematic Award (eEducation): Academic Bridge, Rwanda
- Thematic Award (Disaster Prevention/Recovery Communications): MasterCard, United States

**ITU co-hosted events**

The event also welcomed perspectives from across ITU and its membership and partners, who used the international platform which the event provides in order to hold a series of important co-hosted events. A series of closed meetings took place a day before the official opening. These were the advisory boards meetings of the Smart Sustainable Development Model Initiative (SSDM) and m-Powering Development Initiative, 7th Private Sector Chief Regulatory Officers (CRO) meeting, 8th Chief Technology Officers (CTO) Meeting. For the first time this year, the event proposed an extensive program engaging with academia in the global debate. Activities included the ITU Secretary General Academia Consultation, 2nd Brainstorming Meeting of Impact Study on ICT4SDGs, ITU Kaleidoscope Academic Conference 2016, World Standards Cooperation Academic Roundtable, organized in cooperation with International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC). Important side-events working on technical standards included the 4th APT and ITU Conformance and Interoperability (C&I) event - IPTV Testing, Third ITU Test Event on Compatibility of Mobile Phones and Vehicle Hands-Free Terminals, and showcasing of the implementation of recommendation ITU-T X.1255 promoting interoperability of heterogeneous systems via digital labeling. A strong gender equality agenda focused events, such as EQUALS: the Inaugural Meeting of the Global Partnership for Gender Equality in the Digital Age, Mentorship Sessions: Promoting Women's Digital Entrepreneurship, and the Gender Equality and Mainstreaming in Technology (GEM-TECH) Awards, a joint ITU/UN Women prize recognizing outstanding efforts in using the power of information and communication technology (ICT) to empower women and girls was conferred during a prestigious ceremony at Telecom World.

**Event Baton passes to Republic of Korea**

For 2017, ITU Telecom World will head to Busan, Republic of Korea, focussing on the creative digital

economy and fostering SME growth. Telecom World 2017 will take place from 25-28 September. ITU warmly invites Member States, regulators, and heads of international organizations, global media, digital experts and visionaries, leading ICT corporations and cutting-edge tech-SMEs from the region and across the globe to save the date and prepare to join us at the event.

**Key Telecom World 2016 Statistics**

- Over 8,800 Participants
- 250 exhibitors, including 107 exhibiting SMEs, 60 partners and sponsors from 37 countries
- 162 speakers from 55 countries in the Leadership Summit and Forum
- 338 Leaders from 95 countries, split between public and private sectors
- 7 Agreements/Contracts signed during the period of ITU Telecom World 2016 between Governments, Regulatory Bodies and Private Entities.
- 235 accredited media attended from 17 countries

(November 23, 2016) samenacouncil.org

## Mexico

The Altan consortium made up of Mexican operators Megacable and Axtel is now the only remaining bidder for the tender to build and run Mexico's wholesale shared network on the 700 MHz band after the country's Secretariat of Communications and Transportation (SCT) disqualified the rival bid from the Rivada consortium. In a statement, the SCT said the group made up of Rivada Networks and Spectrum Frontier did not submit a required "letter of credit" for MXN 1 billion in time and was thus disqualified. However, the Irish Independent reports that Rivada Networks chairman and CEO Declan Ganley is claiming the company was "stitched up" and has pledged to file a lawsuit against the Mexican state to get readmitted to the process after a "dubious and perplexing" decision to disqualify his company's bid. Altan's offer for the US$ 7 billion project will be evaluated on November 17, said the SCT. If the bid is accepted, the consortium will need to install around 12,000 new telecom towers in order to cover at least 85 percent of the population. Under the terms of the 20-year public-private partnership, mobile operators will then be able to rent space on the 4G network in exchange for cheap use of high quality spectrum in the 700 MHz band. (November 7, 2016) telecompaper.com

## Nigeria

Investments in Nigeria's telecommunications sector have hit N2.074 trillion (about US$68 billion) as at July 2016 with N1.068 trillion (US$35 billion) coming from Foreign Direct Investments (FDIs) Speaking in a keynote address at the Nigerian Telecoms Investment Forum, at the just concluded ITU Telecom World 2016, Bangkok, Thailand, the immediate past Secretary General of the International Telecommunications Union (ITU), Dr. Hamadoun Toure, said these figures recorded so far in Nigeria point to the fact that "the country is certainly a preferred destination for telecommunications investors in Africa." Toure noted that Nigeria is the place to invest because the population is large and there is political stability coupled with a robust telecommunications regulatory regime. He further explained that within 15 years when Nigeria opened its telecoms sector to the global community, investments have grown in leaps and that from a paltry 400,000 connected lines in 2001, the country now has over 150 million connected lines and a teledensity of 107 per cent. "The next growth for voice communication is in Quality of Service and the new oil in Nigeria is ICT and data transmission is the way to go," he said. On his part, Nigerian Communications Commission (NCC) boss, Prof. Umar Garba Danbatta, disclosed that the regulator has begun digital transformation through the National Broadband Plan (NBP 2013 – 2018) and that since broadband is the catalyst for social and economic transformation, the commission has come to let the global community know that investments are welcome. (November 22, 2016) nigeriatoday.ng

Nigeria, Africa's largest mobile market by subscribers, ended September 2016 with a total of 152.84 million active GSM lines, an increase of 3.0% from 148.43 million twelve months earlier. According to the latest figures from the Nigerian Communications Commission (NCC), South Africa-based MTN remained the mobile market leader with a total subscriber base of 60.56 million at the end of 3Q 2016 (39.6% of total GSM users), followed by locally-owned wireless operator Globacom with 36.97 million users (24.2%), Airtel Nigeria – a subsidiary of Indian telecoms group Bharti Airtel – with 32.78 million subscribers (21.5%) and finally Etisalat Nigeria with 22.53 million users, giving it a GSM market share of 14.7%. In contrast, the number of active mobile CDMA lines declined from 2.04 million at the end of September 2015 to just 276,304 twelve months later, mainly attributable to the migration of Visafone's customers to the GSM network of MTN, which acquired the CDMA operator at the end of last year. The NCC reported that the West African nation ended the third quarter of 2016 with just 158,280 fixed and fixed-wireless lines in service, down from 191,573 the previous year. (November 11, 2016) telegeography.com

## New Zealand

The New Zealand government has approved a NZD150 million (US$102 million) extension to its rural broadband initiative (RBI) programme to improve connectivity in internet blackspots. The new phase of the RBI scheme will bring fixed internet infrastructure to more rural locations and will also look to improve mobile internet coverage. A tender has been opened to find a telco to carry out the deployments, with the first contracts expected to be awarded in mid-2017. The government is looking to cover 99% of the population with 50Mbps minimum broadband speeds by 2020, with the remaining 1% to have access to speeds of at least 10Mbps. (October 28, 2016) telegeography.com

## Philippines

The Philippines' telecoms regulator aims to sell unused and unassigned spectrum by the middle of next year in an auction open only to new mobile players. The National Telecommunications Commission (NTC) will discuss the terms of the auction with the Department of Information and Communications Technology (DICT), but noted the available spectrum will be sold in one block. NTC commissioner Gamaliel Cordoba said there is interest in launching a third mobile network in the country from at least two local companies – Converge ICT and NOW Telecom. He said: "We plan to auction it as one whole [because] if you bid it out piecemeal the one who will get it will also not be able to compete… our idea is one group should be able to get it to enable it to become a third player." The frequencies will include 3G airwaves forfeited by PLDT after acquiring Digital Telecommunications in 2011, as well as spectrum in the 700, 2,500 and 3,500MHz bands returned by PLDT and Globe Telecom as a condition for acquiring San Miguel Corp's (SMC) telecoms assets. NTC announced plans last month to hold a 3G and 4G auction early next year, with interest from a number of companies looking to launch a new mobile network. The announcement came just a week after the country's president Rodrigo Duterte warned the county's two dominant mobile operators – PLDT-Smart and Globe Telecom – that he will open the market to Chinese competition if they fail to improve their poor service. Smart and Globe, which control 99 per cent of the county's mobile connections, in May jointly purchased the telecoms assets of San Miguel Corp, which previously was considering launching a third mobile operation in partnership with Australia's Telstra to inject some much-needed competition into the market. (November 15, 2016) BusinessWeek

## Russia

The telecoms ministry (MinSvyaz) has published for public comment a draft law on the regulation of the Russian section of the Internet ('Runet'), reportedly on the basis of orders from President Vladimir Putin following a Security Council meeting two years ago, according to a source 'close to the authors of the document' quoted by Vedomosti. The draft amendments to the Law On Communications describe the main elements of critical Runet infrastructure and features of their regulation, including autonomous systems, IP addresses, the national segment of the Internet and its infrastructure, exchange point traffic, exchange point owners, the domain name registry .ru and .rf, as well as the administrator of national domain zones. The proposed measures also envisage the development of the 'State Information System' to ensure 'integrity, stability and security'. The draft legal framework contains few actual details of regulation of critical infrastructure elements, which are expected to be elaborated on in further sub-acts. The unnamed Vedomosti source stated that one of the objectives of the State Information System project is to increase domestic traffic and reduce traffic via international channels. Under the draft measures, internet traffic exchange points (IXPs) should belong exclusively to Russian companies. In addition, the bill's text implies that the administrator of the national domain zone must be a Russian legal entity and an established state body of executive power in the field of communication (i.e. MinSvyaz). (November 15, 2016) telegeography.com

## Senegal

The telecoms watchdog the Authority of Regulation of Telecommunications and Posts ARTP has confirmed that the deadline for mobile network operators (MNOs) to confirm the identification and verification of their subscribers' details closed as planned on November 11, 2016. At that date, however, some four million unidentified SIM cards were still in circulation out of a total mobile base of around 15 million users. In light of the high number of unregistered SIMS, the regulator has decided to grant MNOs one more week to allow latecomers to fall into line before their cards are deactivated. ARTP Director Abdou Karim Sall has warned that there will be no more extensions, noting that 'from next week, any customer who has not been identified will have their card suspended', effective November 19, 2016. In May this year Abdou Karim Sall gave the country's telecoms operators – Orange Senegal, Tigo Senegal and Sudatel Senegal (Expresso) – six months to complete a mandatory identification of all mobile telecoms subscribers. Starting May 10, 2016, industry players had six months to comply he said, noting that to help ensure the success of the verification process for identifying users, all operators would be given access to government-held national identity files. (November 15, 2016) telegeography.com

## Singapore

The Infocomm Media Development Authority (IMDA) pre-qualified MyRepublic and TPG Telecom to participate in the planned new entrant spectrum auction next month, while airYotta didn't make the cut. MyRepublic and TPG will bid for 60MHz of spectrum in the 900MHz and 2.3GHz bands, with the winner becoming Singapore's fourth mobile operator. Following a review of documents submitted in September by the three companies, IMDA said in a statement it is satisfied that both MyRepublic and TPG have met its pre-qualification criteria. "airYotta did not fully meet these requirements and will not be participating in auction." airYotta submitted an expression of interest in bidding for the spectrum on the final day applications were accepted. IMDA noted that its pre-qualification checks "are not an endorsement or approval of the pre-qualified companies' business plans". The IMDA said the auction is the first of a two-stage process to auction spectrum for 4G, or IMT and IMT-Advanced, services. The general spectrum auction, which will be open to the three existing players – M1, Singtel and StarHub – as well as the winner of the new entrant auction, will be held in Q1 of next year. Singapore's Infocomms Development Authority (since renamed) in July issued the final rules for the upcoming 4G spectrum auction and set a 1 September deadline for new entrants to submit applications. The agency has taken a number of steps to ease the path for the entry of a fourth mobile operator to boost competition. In February it released a detailed framework for its previously announced spectrum allocation. The regulator lowered the reserve price for the 60MHz of spectrum that will be set aside for a new operator to SGD35 million ($25 million) from SGD40 million and doubled the allocation of spectrum in the 2.3GHz band to 40MHz. Shortly after IMDA issued its announcement, airYotta issued its own statement: "Today airYotta stepped out of the competition to become the fourth telco. While it had very strong and substantial components, airYotta unfortunately did not meet all of the IMDA's requirements for the bid. However, the spectrum allocation process demonstrated that Singaporeans, the industry, and investors see the need for a more competitive industry, galvanized by the role a data-led telco could play in Singapore's future." (November 16, 2016) mobileworldlive.com

## Slovenia

The Agency for Communications Networks & Services (AKOS) has opened a consultation into the award of broadband wireless spectrum in the 3.5GHz, 10GHz and 12GHz bands. The regulator's draft information memorandum is calling for comments on the tender procedure, which it expects to kick off early next year. AKOS will be offering two blocks of 20MHz and one block of 10MHz in the 3.5GHz band, plus two 75MHz blocks, two of 100MHz and two paired 75MHz packets in the 10GHz range, as well as four blocks of 200MHz at 12GHz. It is expected that the frequencies will be used to provide broadband fixed-wireless access (BFWA) services in rural areas. (November 23, 2016) telegeography.com

## South Africa

South Africa's State IT Agency (SITA) has revealed that it pulled the plug on the government's ZAR1.5 billion (USD104.5 million) tender for the rollout of a rural broadband network under the South Africa Connect project as none of the bidders qualified. The agency said in a press release that six companies – Broadband Infraco, EOH Mthombo, MTN, Neotel, Tradepage and Galela Telecommunications (a joint venture) and Vodacom – had placed bids for the contract, adding that 'at the conclusion of the technical evaluation process, which was also subjected to probity by the independent auditor, none of the six companies that responded to the bid had met all six technical mandatory requirements to enable them to proceed to the next phase of pricing evaluation.' (November 23, 2016) TechCentral

South Africa's State IT Agency (SITA) has cancelled a tender for the deployment of 'phase one' of a rural broadband network under the government's South Africa Connect broadband strategy. The first phase of the programme, for which the national treasury has allocated ZAR.5 billion (US$104.5 million), is aiming to connect 6,235 government facilities in eight district municipalities. Phase two, meanwhile, will comprise the rollout of broadband connectivity to 35,211 facilities in the remaining 44 district municipalities by 2020 to meet the SA Connect target of 90% population coverage. News of the cancellation of the tender comes just days after ITWeb reported that six companies had been shortlisted for the tender, including Broadband Infraco, EOH, MTN, Neotel, Vodacom and Tradepage & Galela Telecommunications as a joint venture. Telkom, which had been expected to be a frontrunner for the project, was not among the shortlisted names. (November 22, 2016) PoliticsWeb

## Swaziland

Lindiwe Malaza, acting CEO of the Swaziland Communications Commission (SCC), has revealed that a total of four companies – locally-owned Swazi Mobile and Data Net, and international telecoms providers Viettel Group and Orange-backed Mauritius Telecom – have submitted bids for an individual electronic communications network and services license in the Kingdom of Swaziland, writes The Observer. The executive disclosed that the four applicants have submitted all the required documents by the deadline, adding that the license award process will comprise three stages, namely: submission and pre-evaluation of bids, evaluation of applications and award of a technology-neutral concession. The sole mobile operator in the Kingdom is MTN Swaziland, which was granted an initial ten-year exclusivity period in July 1998. While the government planned to have a second operational cellco by the end of 2011, this time frame proved to be wide off the mark and it was February 2016 before an updated telecoms regulation – which was aiming to provide for the opening of the mobile sector to competition and ending MTN Swaziland's monopoly in the market – was discussed in parliament. (November 1, 2016) telegeography.com

## Sweden

Swedish postal and telecoms regulator PTS said the government has decided to keep the 694-790 MHz frequency range available for terrestrial television broadcasting until May 31, 2018. These airwaves were to have been freed up for mobile services from April 1,2017, but a change in security policy means it is now scrapping the auction that was due to start on December 1, 2016. Acting Director General of the PTS, Catarina Wretman, said the government attributed its decision to a changed security policy situation, adding that there is an investigation under way into an advanced and secure broadband system for those involved in public order, health, security and defense. Telia Company called the decision a backwards step in Swedish digitization, at a time when mobile data consumption is rising by more than 80 percent year. Without more spectrum, Sweden risks negative development, it said. Using the 700 MHz band for mobile broadband and mobile telephony is decisive for Sweden to take its next step in digitization, it added. It sees the need for the government to investigate security but this need not hold up the auction. CEO Helene Barnekow said the authorities should sit down with operators to discuss solutions for emergency services. (November 1, 2016) telecompaper.com

## United Kingdom

The U.K. Chancellor of the Exchequer is expected to allocate more than £1 billion (€1.17 billion) of public funds to support ultrafast broadband deployment when he makes his Autumn Statement tomorrow. Reports from the BBC, Sky News, and The Guardian claimed that the Treasury will set up a £400 million digital infrastructure fund, which is expected to be matched by private sector investment. The government is also expected to provide £740 million to local councils to fund 5G trials and the rollout of ancillary infrastructure, including further fiber optic deployment. According to the reports, Chancellor Philip Hammond is expected to encourage the rollout of full fiber-to-the-premises (FTTP), rather than fiber-to-the-cabinet (FTTC). Hammond's predecessor, George Osborne, said in last year's Autumn Statement that the government would explore setting up a new broadband fund for the purposes of helping alternative network operators compete with incumbent BT. Now that it appears money will indeed be made available, the country's altnets are understandably pleased. "Today's news is a very positive step in the right direction, which will help the rollout of full fiber broadband across the U.K.," said Dana Tobak, CEO of fiber-to-the-building provider Hyperoptic. She called on the government to set more aggressive broadband targets. CityFiber CEO Greg Mesch said the prospect of extra funding represents a catalyst for delivering the U.K.'s fiber future. "Britain's industrial strategy needs a digital backbone, and it is essential that we move quickly to plug the U.K.'s fiber gap and empower our service-based economy," he said. (November 22, 2016) totaltele.com

The telecoms regulator OFCOM has issued a consultation relating to its planned auction of spectrum in the 2.3GHz and 3.4GHz bands. A total of 190MHz worth of spectrum will go under the hammer, broken down as: 40MHz in the 2.3GHz band (2350MHz-2390MHz), and 150MHz in the 3.4GHz band (3410MHz-3480MHz, 3500MHz-3580MHz). Given the technical characteristics of the bands in question, OFCOM says it is better suited for adding capacity, and is not an effective means of extending existing levels of mobile coverage. As such, coverage-based stipulations are more likely to come back into play in 2018/19, when the regulator seeks to auction the 700MHz band. OFCOM reports that of the total amount of mobile spectrum that is currently useable, BT (and its wholly owned subsidiary EE) holds 45%; Vodafone has 28%; O2 holds 15%; and H3G, 12%. Given its dominant holding, BT/EE will be prohibited from participating in the auction for 2.3GHz frequencies. The regulator, however, is less

concerned with the planned distribution of the 3.4GHz band, as it is not immediately usable. OFCOM expects that the band may come into play as cellcos approach the 5G era, and 'specifying limitations on spectrum holdings at this point might constrain an operator's ability to innovate'. In a related move, OFCOM says that it plans to set the cap on immediately useable spectrum at 255MHz, which represents 42% of such spectrum and is at the level of BT/EE's current mobile spectrum holdings. This cap will prevent a worsening of the current extent of asymmetry in terms of immediately useable spectrum. The 2.3GHz spectrum will be made available in England, Scotland and Wales, but not in Northern Ireland, while the 3.4GHz spectrum will be made available throughout the whole of the UK. If UK Broadband chooses to participate in the auction and to apply for a replacement license, the frequencies making up its current holding will change to enable all users of the 3.4GHz band to have contiguous spectrum holdings. The consultation is open to submissions until January 30, 2017. (November 21, 2016) telegeography.com

## United States

The Federal Communications Commission has adopted rules that will force Internet Service Providers to ask customer permission before they use or share their personal data. The new privacy rules are aimed at giving broadband customers "increased choice, transparency and security for their personal data", the regulator claimed. Providers of both fixed and mobile services will need to get customers to opt-in for use of data, including Web browsing history, app usage, health and financial information, children's information, geolocation information, and the content of online communications. They will also be made to inform customers how this information is being used and if third parties are being given access to it. Some data, such as email addresses or service tier information, will be deemed "non-sensitive", meaning ISPs are free to use and share this unless customers choose to opt-out. FCC Chairman Tom Wheeler said: "Today, the Commission takes a significant step to safeguard consumer privacy in this time of rapid technological change, as we adopt rules that will allow consumers to choose how their Internet Service Provider (ISP) uses and shares their personal data. The bottom line is that it's your data. How it's used and shared should be your choice. "Over the past six months, we've engaged with consumer and public interest groups, fixed and mobile ISPs, advertisers, app and software developers, academics, other government actors including the FTC, and individual consumers, to figure out the best approach. Based on the extensive feedback we've received, we crafted today's rules to provide consumers increased choice, transparency and security online." The rules, which were voted in by 3-2 by the FCC board on October 27 are a scaled back version of the FCC's original proposals, but still met opposition from carriers. One of the biggest criticisms from the industry is that the rules do not apply to OTT players. The scope has been limited to broadband service providers and other telecommunications carriers. Joan Marsh, an AT&T senior vice president, said in a blog post that the FCC approach was "illogical," adding that "consumers want their information protected based on the sensitivity of the information collected, not the entity collecting it." (November 1, 2016) globaltelecomsbusiness.com

## Zimbabwe

The government of Zimbabwe has gazetted new regulations to enforce network sharing for telecoms operators. Industry regulator the Postal and Telecommunications Authority of Zimbabwe (POTRAZ) now has the power to compel operators to share their infrastructure in a move which the government hopes will cut capital expenditure by up to 60%, with savings being passed on to the consumer. POTRAZ will now carry out an audit to determine shareable infrastructure. Mobile market leader Econet Wireless has been against the move, saying it has invested US$1.2 billion on its network rollouts over the past five years and it must now open up its infrastructure to state-backed rivals NetOne and Telecel. (November 9, 2016) telegeography.com

*Information contained in Member News updates, Regional News updates, Policy & Regulatory updates, Satellite News updates, Technology News updates, Regulatory News Snapshot of SAMENA Countries, Regulatory News beyond SAMENA region and Wholesale News updates have been obtained from sources, which we deem reliable. SAMENA Telecommunications Council is not liable for any misinformed decisions that the reader may reach by being solely reliant on information contained herein. Expert advice should be sought.*

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