SAMENA TRENDS

EXCLUSIVELY FOR SAMENA TELECOMMUNICATIONS COUNCIL'S MEMBERS

BUILDING DIGITAL ECONOMIES

A SAMENA Telecommunications Council Newsletter

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Secretary-General
ITU

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Building awareness of future trends and developments in the ICT sector

SAMENA TRENDS

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Building awareness of future trends and developments in the ICT sector

In our rapidly developing global information society, technology has had a great influence on every facet of society and people's lives. Essentially two discrete technologies: information technology (IT) and communications technology (CT) have steadily become incorporated to form a – ICT (information & communications technology). Together with the massive success and admiration of the Internet, society has unarguably moved in the era of ICT.

Looking back at the growth and expansion of ICT one of the most notable accomplishments indeed are the developments and adoption of iOS and Android smart mobile terminals, and the surge in the significance of the mobile Internet which has been advanced by the acceptance of mobile terminals. This has not only facilitated to sustain and cultivate data traffic over operator's 3G/4G networks, it has also generated new prospects and challenges to the ICT industry and profoundly impacted its future strategy.

Observation of latest developments in the ICT industry indicates that smart mobile terminals have increased the public admiration to such magnitude that we can label contemporary society with an "M" (Mobile) tag. The ICT sector has moved in the mobile era and the term ICT should be reviewed to embrace 'mobile'. The notion of Mobile-ICT (M-ICT) offers us with a broader perspective and thoughtfulness of where we are standing, and where we are going to be in the next decade.

From the outlook of Mobile-ICT, all the evolving information technology developments seem quite natural. The reputation and acceptance of smart terminals and mobile broadband networks have had a great impact on people's daily lives; including daily routines from driving, dinning, shopping, sports, healthcare, and entertainment, as well as enterprise operations and advanced business management styles signified by the mobile office. Indeed, the mobile services that we have the liberty to appreciate today have been offered on fixed terminals for a long time, when they were observed as technological progress, rather than explosion. In the mobile era though, those services have enhanced our lives and our business routines in entirely different ways. Service ubiquity has become a reality and has transformed the way we live and do business. Service ubiquity and customer experience will be significant indicators in the Mobile-ICT era. However, the traditional ICT industry will continue to grow with fast pace, leading to a new round of advancements in finance, transportation, energy, education, healthcare and other industries. With these thoughts, that in the year 2015 we are going to observe a rapid drift in the ICT industry, I wish you all a very prosperous and a productive new year!

Yours truly,

Bocar A. BA
Chief Executive Officer
SAMENA Telecommunications Council

Dr. Hamadoun I. Touré
Former Secretary-General
ITU

Dr. Hamadoun I. Touré, Former Secretary-General of the International Telecommunication Union (ITU) since January 2007, was re-elected for a second four-year term in October 2010.

As Secretary-General, Dr. Touré is committed to ITU's mission of connecting the world, and to helping achieve the Millennium Development Goals through harnessing the unique potential of Information and Communication Technologies (ICTs).

A long-standing champion of ICTs as a driver of social and economic development, Dr Touré previously served as Director of ITU's Telecommunication Development Bureau (BDT) from 1998-2006. In this role he placed considerable emphasis on implementing the outcomes of the World Summit on the Information Society (WSIS), launching projects based on partnerships with international organizations, governments, the private sector and civil society.

Q. Having spent 16 years at ITU, a UN agency facilitating ICT development around the world, in what direction are the world and humanity headed?

A. I took office as Secretary-General of ITU in January 2007 and before that, for eight years I was the elected Director of ITU's Telecommunication Development Bureau (BDT). In my two terms at BDT, I built on ITU's commitment to connect the world and laid the framework to bridge the digital divide in a people-centred, inclusive and development-oriented information society. This focus came to the global stage during the World Summit on the Information Society (WSIS) which brought together Heads of State and Government along with industry leaders, academia, civil society and international organizations to exercise their collective will to harness the power of information and communication technologies (ICT)

for the benefit of humanity. World leaders upheld the principles of the Charter of the United Nations and the Universal Declaration of Human Rights "so that people everywhere can create, access, utilize and share information and knowledge to achieve their full potential and attain the internationally agreed development goals and objectives.
The digital revolution in ICT has made a profound impact on how the world functions, interacts and communicates. These technologies are powerful instruments for increasing productivity and generating economic growth, and have created new opportunities for higher levels of development and quality of life for all.

ICTs are drivers of social and economic development, providing enhanced opportunities to generate income and combat poverty, hunger, ill health and illiteracy. ICTs and related e-applications are key instruments in improving governance and rural services, such as providing community health care, safe drinking water and sanitation, education, food and shelter; improving maternal health and reducing child mortality; empowering women and the more vulnerable members of society; and ensuring environmental sustainability. ITU is committed to connecting the world and to ensuring that the benefits of ICTs reach the remotest corners of the world.

Today, the global community is better connected than ever. Mobile penetration has spread rapidly with nearly 7 billion subscriptions. The thrust now is to drive content through enhanced broadband access aimed at establishing the information and communication highways — networks that will feed both rural communities and urban centres with the means to meet their development goals and aspirations.
My sincere hope is that as people around the world have better access to communication, leading to better understanding between communities in our global village, we can all enjoy a more productive, peaceful and — in every way — a better life.

Q. What transforma-tional phases in the way we communicate have been directly influenced by ITU and your spearheading of the mission of the Union?

A. Digital communications have redefined the way we conduct our everyday lives – and this revolution is ongoing at a dynamic pace. The Broadband Commission for Digital Development, which I established with UNESCO, calls upon governments and industry to pull together in a global effort to roll out broadband networks. Today, the revolutionary growth of the Internet and mobile phones, of big data and new ways of conducting business bears testimony to these achievements.

We have strived to ensure that that all sections of society, especially remote and vulnerable communities, receive the benefits of being connected in an affordable and secure manner. At the same time, we have addressed the global challenges of our times, using ICTs to help combat climate change, and bringing solutions to help achieve the Millennium Development Goals (MDGs). We have strengthened cybersecurity and we continue to work within the intergovernmental framework to ensure cyber peace. We are now actively taking part of the debates over the Post 2015 Sustainable Development Goals (SDGs).

While mobile phones have brought about a revolution in overall connectivity, with nearly 7 billion subscriptions, smart devices have transformed the way people interact and conduct their business.

Access to online services today is vital in order to find a job, receive a salary, pay bills and taxes, vote, learn and conduct business. Governments throughout the world are striving to bring ICTs to everyone. As the intergovernmental body coordinating the development of ICTs worldwide, ITU remains more relevant than ever serving its 193 Member States and over 700 private sector entities.

Broadband networks and Internet services are increasingly viewed as

non-optional utilities (or "rights") whose availability and performance impact every aspect of the economy and societal development.

The emergence of the Internet has radically changed technology approaches, market philosophies and regulatory paradigms of the telecommunication industry. New means of delivering content are being used as new business models emerge, with online advertising now rising as a key source of revenue. This consolidation across the value chain is underlined by just how much has changed in the last few years in terms of cross-ownership and the battle between telecommunication operators and over-the-top players.
The huge growth in data being carried over telecommunication networks is quickly becoming the next frontier, and the increased importance of managing traffic flows, means that net neutrality is likely to remain an important issue on regulators' radars.

Exploring digital transactions and the mobile payments market, rapid growth has been seen, with the total value of transactions nearly doubling every year from 2009 through 2012. Market commentators and forecasters expect this growth to continue apace for the foreseeable future. Seen broadly, this has been, and will be, a global phenomenon.
The incredible potential of the Internet as a unique economic enabler, generating an estimated value exceeding USD 14.4 trillion in the next ten years, is seen as a major driver of the global economic engine.

I am proud to say that during my tenure as Secretary-General of ITU, the world of ICT has seen many transformational changes and ITU has been instrumental in spearheading this as the intergovernmental body developing worldwide interoperable standards for ICTs and managing the spectrum and orbital resources that make this possible. As most recent examples, I can cite G.fast, the new ITU broadband standard designed to deliver access speeds of up to 1Gbit/s over existing telephone wires, and IMT-Advanced and IMT Beyond 2020 which represent next steps in mobile technologies.

Q. What would you do differently if you were elected as the Secretary-General for another 4 years?

A. I took a glance at the campaign brochure I made in 2006 for my first election as Secretary-General. I am pleased to say that I have successfully completed all the things I had promised to do.

While I have had the privilege to lead the Union for the past eight years, ITU has continuously reaffirmed its reputation worldwide as one of the most resilient and relevant organizations and continues its work as the specialized agency of the United Nations dealing with ICTs. For a century and a half since 1865, ITU has been at the centre of advances in communications – from telegraphy through to the modern world of satellites, Radio, Television, mobile phones and the Internet.

The story of ITU is one of international cooperation, among governments, private companies and other stakeholders. The continuing mission is to achieve the best practical solutions for integrating new telecommunication and information technologies as they develop, and to spread their benefits to all.

The tenure of Secretary-General of ITU is limited to a maximum of two four-year terms, a period sufficient for anyone to contribute significantly, which I did. This autumn at the Plenipotentiary Conference in Busan, Republic of Korea, ITU Membership elected Mr Houlin Zhao as my successor and I am delighted to leave the reins of office in his very able hands.

Q. What new roles do you foresee ITU exercising in the age of Internet of Things and smart cities?

A. ITU has been working on standards for the Internet of Things (IoT) for many years. 'Smart technologies' under the banner of IoT will impact all industry sectors, increasing efficiency while reducing human intervention. ITU has developed standards as technical underpinnings of IoT applications, which can be viewed as the ability for things and people to remotely interact through the Internet anywhere and at anytime, thanks to the timely convergence of many technologies.

ITU defines the Internet of Things as a "global infrastructure for the information society, enabling advanced services by interconnecting (physical and virtual) things, based on existing and evolving interoperable information and communication technologies." This definition offers useful insights and a sound springboard for further analysis and research into the Internet of Things, which essentially is a "vision", not a single technology, and that it has far-reaching "technological and societal implications".

Alain Louchez, who is leading a global initiative at the Georgia Tech Research Institute in Atlanta and who is an expert at ITU, says "Machines, everyday objects and virtual elements (such as digital pictures) now have the possibility to be identified in the same way as individuals on the Internet of people. As a result, things can be integrated into a vast web of interrelations where they can communicate with each other or with people. Essentially, in the world of the Internet of Things, things are now on a par with people." Machine-to Machine (M2M), probably the earliest manifestation of the Internet of Things, is considered a key enabler of applications and services across a wide range of vertical markets such as healthcare, logistics, transport and utilities. A common M2M service layer, agreed internationally by a diverse set of stakeholders, will provide a cost-efficient platform upon which to build differentiated services across a variety of industry sectors.

In the recent history of the ICT industry, the Internet, mobile communications and broadband have transformed the world, bringing a high level of convergence accessible on one's fingertips on one device, which is accessible anytime and anywhere. The next steps will be further evolution with far greater efficiencies and affordability allowing more people to access the benefits of ICTs. At ITU, we are already developing new generation standards. Big Data will demand considerable attention, both from the users and from service providers, and that also means creating greater efficiencies in spectrum management that will be considered at the forthcoming World Radiocommunication Conference in 2015.

The explosive growth of short range radio devices (SRD) and Ultra Wide Band (UWB) technologies has an enormous potential to affect our daily lives. Medical health systems, machine-to-machine solutions, transport and telematics systems, the aviation industry and wireless power transmission can all benefit as these technologies evolve.

ITU is also actively promoting the development of 'Smart Sustainable Cities' that integrate 'smart' technologies in city infrastructure and operations to increase environmental efficiency and socio-economic wellbeing. The ITU-T Focus Group on Smart Sustainable Cities is looking at global interoperability testing along with next-generation networks (NGN), ubiquitous sensor networks (USN) and emerging technologies such as the Internet of Things, distributed service network (DSN), and home networking.

ICTs are crucial to sustainable development, expected to enable efficiency gains in areas such as energy distribution and consumption, transportation systems, water management and waste disposal. A connected citizenry is also seen as a route to better access to education and healthcare as well as to more collaborative city governance. ICTs need to play a strategic role in the development of renewable energy, and the development of smart, sustainable cities are critical for overall CO_2 reduction and energy management.

ITU calls for stronger cooperation between the energy and ICT sectors and emphasizes the value of international technical standards in ensuring that smart-city solutions see the benefits of economies of scale and interoperability. ITU provides a platform to discuss the necessary regulatory environment and gives strong impetus to the integration of ICTs as part of smart sustainable city strategies in collaboration with the energy industry.

Q. In what ways have you singularly inspired change in the world, and what are your recommendations for countries striving to achieve social as well as economic progress?

A. I have been inspired by the long-standing traditions and commitment of ITU to connect the world and to facilitate communication among people and societies. Whatever I have accomplished as Secretary-General,

it is due to the larger goals and objectives of the Union.

Today, digital communications have redefined the way we conduct our everyday lives – and this revolution is ongoing at a dynamic pace. The revolutionary growth of the Internet and mobile phones, of big data and new ways of conducting business bears testimony to ITU's leading role in coordinating issues related to ICTs at the global intergovernmental level.

I established the Broadband Commission for Digital Development along with UNESCO, our partner UN agency, and with outstanding support from H.E. Mr Paul Kagame, President of Rwanda, and Mr Carlos Slim Helú, President of the Carlos Slim Foundation, in order to ensure that all sections of society, including people living in remote communities, and especially women and children, receive the benefits of being connected.

Along with fostering gender mainstreaming through ICTs, we must encourage youth, especially girls, to contribute to the innovation that continues to evolve the digital landscape, creating new opportunities for employment and growth as well as future leadership. ITU actively encourages young people to bring in fresh ideas and dynamism in the ICT sector and display them at forums like ITU Telecom World. We also held a Youth Summit: "BYND 2015" in Costa Rica which included an ICT hackathon involving young developers from around the world.

Information and communication technologies are drivers of social development and economic growth and we need to utilize the technical expertise at our command to address some of the global challenges of our times, such as combatting climate change. ICTs provide the key tools to monitor the earth and help reduce our carbon footprint, contributing significantly to achieving the goals of sustainable development.

ICTs played a key role as a tool in in helping achieve the Millennium Development Goals (MDGs) even though they are not cited as a goal. This could not be fully appreciated

in the year 2000 when the MDGs were conceived. But now, as we are conceiving the sustainable development goals (SDGs) in the post-2015 era, it is essential that our Members take ICT in a dual role – as a goal and as tool to achieve the other development goals. It is a well-accepted fact that ICTs create jobs and wealth, help save lives and enhance our way of life.

ICT has also been part of the solutions to all the major challenges of our modern life. Climate change and environmental sustainability are the latest global challenges where ICTs have played a key role and will continue to do so. I was privileged to have ITU contribute to this during my time as Secretary-General.

Last but not least, in order to ensure confidence in the use of our networks, we have to build the international frameworks to strengthen cybersecurity. That is why I established the Global Cybersecurity Agenda in 2007. In the security business, trust is key, and if we do not start to develop such a culture of trust, there will be no way that the cyber world can ever become truly safe and secure. Global initiatives within the framework of ITU's Global Cybersecurity Agenda (GCA), such as Child Online Protection (COP) and the International Multilateral Partnership Against Cyber Threats (IMPACT) have had a strong impact in raising awareness of online perils and sharpening monitoring mechanisms. The international effort that I have initiated must plug the security gaps in the online world and our dedicated teams have been conducting cyber drills around the world to prepare Member States to deal with cyber threats.

I urge all our Member States to do their utmost to maintain peace in cyberspace. Together we can make our world safer, prosperous, more productive and peaceful.

Houlin Zhao
Secretary-General
ITU

Houlin Zhao was elected ITU Deputy Secretary-General at the Plenipotentiary Conference in Antalya, Turkey, in November 2006. He was re-elected for a second four-year term in Guadalajara, Mexico, in October 2010.

Born in 1950 in Jiangsu, China, Mr Zhao graduated from Nanjing University of Posts and Telecommunications, and holds an MSc in Telematics from the University of Essex in the UK.

From 1999 to 2006, he served as Director of ITU's Telecommunication Standardization Bureau (TSB). During his term of office he spearheaded the introduction of new efficiency measures to improve ITU's standards-making environment and strengthen its promotion. He also enhanced the strategic partnership between Member States and Sector Members, while initiating and maintaining good relationships with industry members. Under his leadership, ITU enhanced its level of international cooperation with other standards development organizations, and was instrumental in helping bridge the standardization gap between developing and developed countries.

From 1986 to 1992, Mr Zhao was a senior staff member in the then CCITT, and from 1993-1998 in TSB. Among his responsibilities as Counsellor for ITU-T Study Groups, he was Coordinator for cooperation with other international technical bodies, including ISO and IEC.

Prior to joining ITU, Mr Zhao served as an engineer in the Designing Institute of the Ministry of Posts and Telecommunications of China, taking an active role in his country's expert meetings on telecommunication standards and national plans, as well as participating in ITU's technical Study Group meetings as a Chinese delegate. He contributed important articles to a number of prestigious Chinese technical publications, and in 1985 was awarded a prize for his achievements in science and technology within the Ministry of Posts and Telecommunications.

Mr Zhao is married with one son and two grandchildren, and is fluent in three official ITU languages: English, French and Chinese.

Q.   What are the most important areas of global ICT policy that are near and dear to your heart as the new leader of ITU??

A.   Information and communication technologies (ICT) are key enablers of social and economic development and of an environmentally sustainable future for all of the world's people. The astounding growth that we have seen in recent years, particularly in mobile and ICT-enabled applications, will continue. The world of big data is evolving rapidly.

Meanwhile, end users are increasingly concerned about a diverse range issues such as security, privacy, quality of service, and service charges. Service providers are facing challenges in regard to investment and the sustainability of business models. Regulators are focusing on the healthy development of markets. All these stakeholders will continue to play vital roles in the future development of ICT.
In this environment, ITU will become ever more relevant, and it will be our very important task to help all members of our different constituencies to navigate their way through a fast-changing landscape, and to help them make the most of opportunities while minimizing risk. In all our activities, it is our aim to tailor our efforts to best serve the needs of our community – the global ICT industry, and of course ultimately the world's ICT users.

Q.   With so much rhetorical focus placed on sustainable development and green technologies, how soon can we expect to witness tangible impact of ITU's efforts on this front?

A.   By raising awareness of ICT's role in tackling environmental challenges including climate change, ITU is promoting innovative ICT solutions to environmental questions and, through our Telecommunication Standardization Sector, is developing green ICT standards to support a sustainable future, in a huge range of key areas such as assessment of environmental impact of ICTs; climate change adaptation and mitigation; energy efficiency for ICT equipment, and e-waste.

In addition to producing a wide range of specialist reports on climate-related issues, we've already approved a large number of 'green ICT' standards, covering areas like universal global power chargers and 'green battery' solutions for mobile phones, standards for smart power grids, for metrics to measure ICT power consumption for equipment and data centres, and for recycling of rare metals. We have a special Study Group on climate issues (ITU-T Study Group 5), Focus Groups on Smart Sustainable Cities, and on Smart Water Management, and a number of joint activities on ICT and climate change issues with partners like our sister agencies in the UN system UNESCO, UNEP and WMO. In addition, our Green Standards Week has proved one of our most successful new initiatives, with the most recent Green Standards Week, held in Beijing in September, attracting some 300 participants from industry and the private sector.

Q.   What are the key global expectations that you see to be integral to the way ITU needs to operate over the next four years and beyond?

A.   In a constantly changing environment, it is important to be able to adjust our order of priorities to respond to the situations we face. When I take office as ITU's 19th Secretary-General, I will be emphasizing the following three priority areas:

ITU membership – I will continue to work to secure confidence and to enlist the support of ITU Member States, as well as to strengthen the participation of Sector Members, Associates and Academia in ITU activities.

ITU's effectiveness – I will increase the efficiency of ITU in order to meet new challenges, and will enhance our cooperation with partners to strengthen ITU's leading position in global ICT development.

And finally, ICT promotion – I will work to promote telecommunication and information and communication technology services to help achieve a better life for all.

Q.   What is most exciting in the world of ICT development and how can Administrations accelerate their efforts to make the most of what the ICT industry has to offer?

A.   Huge gaps in terms of access to and the use of communications technologies still exist, with more than half the global population still offline, and many people who have still not accessed any modern communications tools whatsoever. That's a major impediment to personal empowerment – especially for those unconnected. But it's also a major opportunity for players able and willing to adapt themselves to the special needs of particular markets, to think 'outside the box' of the standard kind of service offerings that dominate more developed markets.
The ICT community as it stands today faces some major challenges: the need to reach marginalized communities including the poor, the disabled, and physically remote settlements; the need for new infrastructure investment in areas like fixed and mobile broadband; the need to have confidence in using new ICT services; and evolving market models such as over-the-top (OTT) players. It will be ITU's important and exciting job to help the community it serves to best meet these challenges.

One of the really major shifts we're now seeing is that world-class technical innovation is not always coming from industrialized nations, nor from the biggest companies. Because ICT networks allow for collaboration across the barriers of space and time, anyone with a good idea can be empowered to make that idea a reality. That means even tiny start-ups in the remotest corners of the world can come up with 'the next big thing' in ICT.

broaden still further – and I would like to encourage SMEs to join us; in particular, we need to bring young entrepreneurs from developing countries into the ITU fold.

In addition, there are many associations of professors, including engineers, researchers and lecturers etc., who have expertise and competencies in ICT technologies and services, and I will try to reach out to them.

I think this is one area where industry associations like SAMENA could play a particularly crucial role. You have the network of grassroots contacts, you are in touch with the industry at the national and regional level, and we would love to work with you, and other industry associations, to promote the benefits that ITU membership can bring to smaller start-ups and young entrepreneurs.

Q. What will ITU do to increase the level of participation from within its diverse membership, and how can industry associations play a more visible role to augment your efforts?

A. ICT platforms like remote participation systems are increasingly being used to great effect within ITU to enhance the participation of members from developing countries. This approach also has other benefits, including reducing costs for both ITU and its members, and cutting global emissions by reducing the need for travel.

Broadening our membership to include universities and academic institutions has also been a very positive step; we already have more than 60 new Academia members. I'd like to see this grow to over 200 institutions in the coming four years, creating a new, global research community that can empower young people wherever they live, around the world.

I would also like to launch a new 'hi-tech park' platform for small- and medium-sized enterprises (SMEs) and young entrepreneurs. Looking at the huge number of different companies and industries within the ICT family, I do think that ITU membership has the potential to

▼

Mobile Broadband Subscriptions (Per 100 Population) **(Global Rank of SAMENA Countries)**

Global Rank   **Data Not Available**
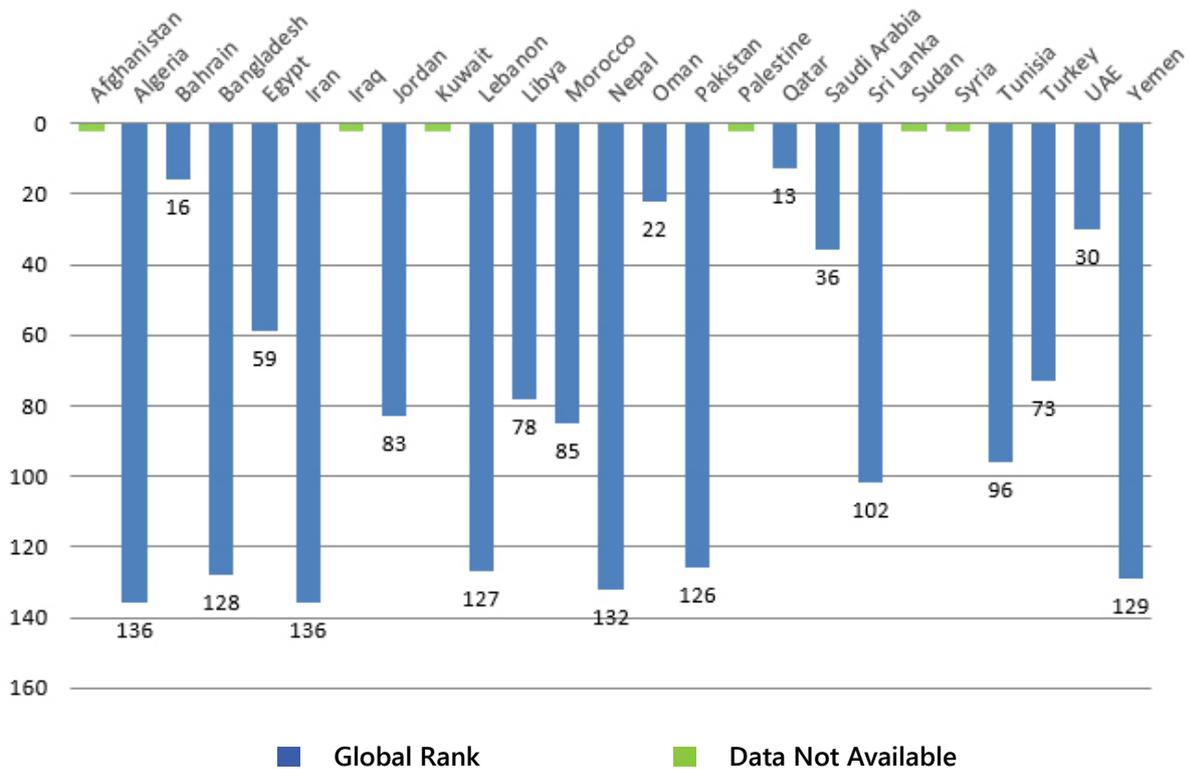
Total countries: 148
Rank 1: Singapore
Data Source: World Economic Form Global Competitiveness Report
Image Source: SAMENA Council

Mobile Broadband Subscriptions (Per 100 Population) (Regional Rank of SAMENA Countries)

SAMENA Rank   Data Not Available
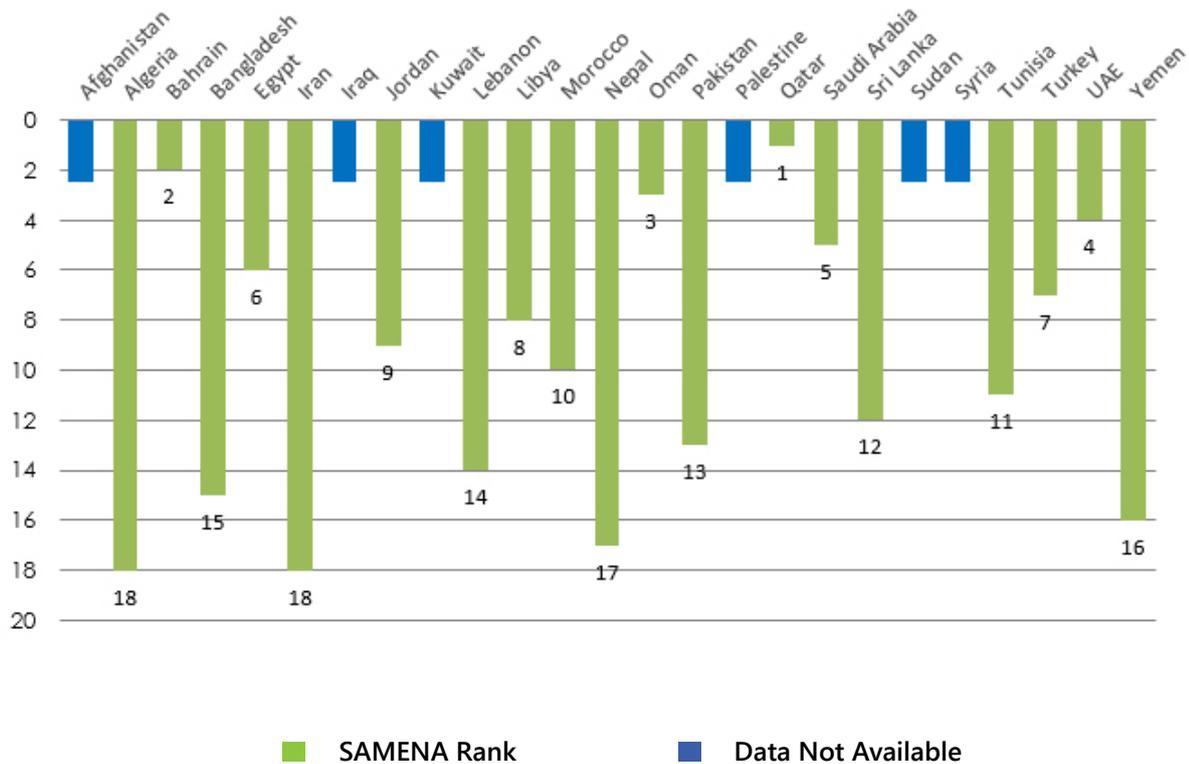
Research Note: Within the SAMENA region, Qatar has the best mobile broadband subscriptions per 100 populations. The lowest number of mobile broadband subscription per 100 is in Nepal followed by Algeria and Iran respectively. The top 5 ranked countries are from the Middle East. Libya and Morocco from North Africa are ranked 8th and 10th in the SAMENA region. From South Asia, there is not country in the top 10 list.

Data Source: World Economic Form Global Competitiveness Report 2013
Image Source: SAMENA Council

MEMBERS NEWS

MEMBERS UPDATES

Ooredoo, Alca-Lu to deploy 400G backbone network in Algeria

Algerian cellco Ooredoo (Nedjma) and French-US vendor Alcatel-Lucent have built a high-capacity optical transport network (OTN) in order to deliver increased speed and capacity to Algeria's main cities of Algiers, Constantine and Oran and a number of smaller towns. The agile optical network, which the vendor claims is 'Africa's first Alcatel-Lucent 400G backbone', will be fully operational before the end of 2014. The network will be based on Alcatel-Lucent's Dense Wave Division Multiplexing (DWDM) optical transport technology using the 1830 Photonic Service Switch platform to address demand for high-bandwidth mobile data services such as high-definition video streaming, next-generation mobile broadband applications and cloud services. Alcatel-Lucent is also supplying Ooredoo Algeria with its soft decision forward error correction (SD-FEC)-based 100G coherent optical technology, which was developed using the company's 400G Photonic Service Engine (PSE).

Joseph Ged, CEO of Ooredoo Algeria commented: 'Ooredoo Algeria has the fastest growing 3G network in the country and in North Africa. Our 400G network will be instrumental to support the best quality of experience (QoE) for our customers as well as to increase our market share in Algeria. Through this game-changing achievement we intend to consolidate our technology leadership within the Maghreb region and also in Algeria in order to offer to our clients best-in-class network in terms of capacity and speed.'

Qualcomm Ahead in Mobile GPUs

Qualcomm is the leader in mobile graphics cores, a market expected to see shifts among other players as China's market for Smartphones and tablets heats up. The market for mobile devices, including notebooks, continues to soar in spite of economic difficulties. Although portable devices are not necessarily replacing the PC, they are outselling it. Each of these devices has a graphics processor integrated in its application processor. Overall, the market for SoCs with GPUs grew 81% from the first half of 2011. Our study of this segment found Qualcomm has more than 42% of the total market for personal mobile devices (above). Among the more than four dozen SoC suppliers characterized as "Others," Imagination Technologies is overwhelmingly the largest supplier of graphics cores, with the exception of four proprietary, vertically integrated suppliers. However, ARM and Vivante have shown tremendous growth year-to-year (see table below). Other SoC

suppliers that buy GPU cores include Allwiner, Freescale, Huawei, MediaTek, Rockchip, and Wonder Media/VIA. These companies have participated in the feature phone market, and some of them have recently entered the Smartphone, tablet, and handheld game machine segments. The exploding tablet market in China is fueling the growth of portable SoCs, contributing significantly to the astounding growth that ARM and Vivante are experiencing. As a result of China's tablet surge, dramatic changes are expected during the next 12 months. As a result of the turbulence in the market, we expect market shares to shift dramatically through 2013. More than four dozen semiconductor suppliers produce application processors, including Apple, Broadcom, Intel, Marvell, MediaTek, Nvidia, ST-Ericsson, Texas Instruments, Toshiba, Qualcomm, and Samsung. Of these players, AMD, Intel, Nvidia, and Qualcomm are vertically integrated companies with their own GPU and CPU designs. All of the other companies buy GPU cores from one of four IP suppliers: ARM, DMP, Imagination, or Vivante. Samsung and Broadcom are two exceptions. Samsung has an internal GPU design and buys graphics IP from both ARM and Imagination. Broadcom also has an internally designed GPU and buys GPUs from ARM. The leading high-volume suppliers of application processors are Apple, Texas Instruments, Qualcomm, and Samsung. Imagination supplies GPU IP to Apple, TI, and Samsung -- which also uses ARM GPUs in some phones. Qualcomm designs its own GPU cores. The upcoming SoC suppliers with impressive design wins to their credit are Intel and Nvidia. Qualcomm, however, is the giant in the industry.

commitment to the Benchmarking research is part of its determination to raise awareness of ICT's impact on the environment. As an industry, ICT is responsible for 3 percent of the world's total global emissions – a figure that is predicted to grow to as high as 10 percent by 2020. The report was released at an executive briefing on ICT sustainability practices in Sydney today which was opened by the NSW Minister for the Environment, Rob Stokes and attended by sustainability champions from across industry and government. The commitment of Government and NGOs to this Fujitsu initiative was confirmed in the forewords to the report from Rob Stokes MP, and WWF Australia CEO, Dermot O'Gorman. William Ehmcke, Director of Connection Research which undertook the research, said: "From the last Benchmark Report, we can see that ICT Sustainability across Australian organizations has, by and large, stalled. Over the next two years we hope to see some very real flow-on benefits stemming from better Metrics and increased investment in Technology Enablement. These will have the capacity to drive wholesale improvement and value across private and public sector enterprises." This benchmarking research takes a critical look at the five key areas of the ICT supply chain – Equipment Lifecycle Management, the Data Centre, End User Computing, Technology Enablement and Metrics - and how to measure and manage performance and ICT energy use. It compares the performance of large IT-using organizations across Australia's Finance and Business Services; Government, Heavy Industry; IT, Comms and Media; and Wholesale, Retail, Logistics industry sectors. Fujitsu has commissioned this research in 2010, 2011 and 2012 and, to date, has

surveyed more than 3,000 CIOs across eight countries including Australia. This is the first dedicated Australia-specific report. Lee Stewart, Head of Sustainability at Fujitsu Australia and New Zealand, said in releasing the report: "It is clear that Australian enterprises are making only token gestures towards the environment. Failure to take responsibility for the impact on the planet is one thing but failure to see ICT Sustainability improvements as key to reducing CapEx and energy costs is missing the requirements for every area of every business to produce savings. ICT Sustainability, even if seen in pure financial terms, cannot be ignored." In encouraging CIOs to download the ICT Sustainability: Australian Benchmark 2014 report, Stewart said: "If you take only one thing from this resource, it is to isolate and understand your ICT energy usage. Treat it like cash in your business - measure it, monitor it and control it. This single action will push efficiencies beyond ICT to your whole organization. Every new technology implementation is an un-missable chance to improve sustainability and financial performance."

Batelco wins customer service provider of the Year Award at CommsMEA 2014

Batelco, Bahrain's leading integrated communications provider has been named as Customer Service Provider of the Year at the annual CommsMEA Awards, held in Dubai on December 3 at the Sofitel Dubai The Palm Resort & Spa. The CommsMEA Awards set out to celebrate and pay tribute to the telecoms industry professionals and

Fujitsu ICT Sustainability Report 2014 for Australia

Fujitsu today released its ICT Sustainability: Australian Benchmark 2014 report. It highlights key areas in ICT where performance and efficiency improvements are required and outlines the actions that can be taken. In addition to the survey responses from the CIOs of 200 of Australia's leading ICT-using organizations, the report is an excellent resource which includes expert insights, focus areas and quick win recommendations that are supported by industry commentary and examples. Fujitsu's

operators that have demonstrated outstanding performance and achievements during the year. The prestigious Customer Service Provider of the Year award recognizes the operator that has placed the customer at the front and centre of its business by delivering the best service possible. To ensure that the people who use the services also get to have their say, nominations and judging for this award was open to CommsMEA readers in addition to the judging panel. Batelco's newly appointed Acting Bahrain CEO Muna Al Hashemi collected the award at the prestigious ceremony in Dubai. Mrs. Al Hashemi said that she was delighted to collect the award on behalf of Batelco noting that all the leading telecommunications companies in the region were considered for the accolade of Best Customer Service Provider of the Year. "Batelco recognizes that excellence in customer service underpins the success of any telecom operator and accordingly Batelco has invested heavily in setting up a state-of-the-art Customer Call Centre at its Hamala Headquarters." "The Centre uses the latest in technology and infrastructure backed up by a large team of fully trained and skilled personnel to ensure that the needs of its customers are met," she added. The winners were awarded at the Gala dinner attended by senior executives, personalities and VIP's from the region's leading establishment.

BlackBerry narrows fiscal Q3 loss but revenue plunges

Canadian Smartphone maker posts $6 million non-GAAP profit, sells 1.9 million devices. BlackBerry on Friday posted a significant improvement in earnings for the three months to 30 November, but revenue fell sharply. The Canadian Smartphone maker reported non-GAAP earnings of US$6 million, or $0.01 per share, compared to a loss of $0.02 per share in the previous quarter. It also posted positive fiscal third quarter cash flow of $43 million, compared to negative $36 million in fiscal Q2. Meanwhile, BlackBerry's operating loss narrowed to $139 million from $198 million sequentially, and from $5 billion a year earlier. BlackBerry's net loss came in a $148 million, a significant improvement on the $4.4 billion net loss notched up in Q3 2013. "We achieved a key

milestone in our eight quarter plan with positive cash flow. We also attained another important milestone in the release of our new enterprise software products and devices," said BlackBerry CEO John Chen, referring to the recent launch of BES12. However, BlackBerry's revenue fell sharply to $793 million from $1.2 billion a year earlier, well short of the $931.5 million forecast in a Thomson Reuters poll of analysts. The company is in the midst of re-positioning itself as a specialist in enterprise mobility services, reducing its reliance on dwindling handset sales. In fiscal Q3, BlackBerry sold 1.9 million handsets, and recognized revenue on approximately 2 million units.

EE, Qualcomm and Huawei complete 4G LTE Category 9 testing at 410Mbps

Qualcomm, EE and Huawei have successfully completed a 4G trial to improve speeds and internet

connection reliability on mobile devices, achieving download speeds of up to 410Mbps. The LTE Category 9 testing is the first of its kind in Europe and will look to dramatically improve EE mobile broadband speeds across greater areas. The firms claim that the test has proved the operator can aggregate 20MHz of 1800MHz spectrum with another 20MHz of 2.66GHz, and a third carrier of 15MHz of 2.6GHz. Conducted using QTI's Qualcomm Snapdragon 810 processor with an integrated LTE-Advanced modem, testing was completed on Huawei's commercial infrastructure solution across EE's LTE-A 4G+ network. "[We] have successfully completed inter-company interoperability testing of LTE Category 9 connectivity with three-

carrier downlink aggregation and download speeds of up to 410Mbps," said Qualcomm. "Transitioning from Category 6 to Category 9 LTE-A connectivity will mean 1.5x faster peak download speeds, swift application response times, reliable connectivity and connections to the fastest networks." EE said that using its remaining 15MHz of the 2.6GHz spectrum enables the fastest speeds and an increase in capacity across its network. The operator will demonstrate these new faster speeds at Wembley Stadium early next year. "Working closely with the excellent teams at Qualcomm and Huawei on the next generation LTE Category 9 connectivity enables us to make full use of our spectrum holdings, and continue to offer world class network capabilities, innovating to stay one step ahead of operators in Europe," said EE's director of network services and devices, Tom Bennett. This isn't the first time EE and Huawei have collaborated. Back in 2012 the pair teamed up to launch the UK's first 4G LTE network. Huawei described the test as "a truly ground breaking moment" in the move towards the 5G era. However, none of the firms confirmed when these speeds will become a reality.

Cisco showcases Idea London start-up successes in IoT and healthcare

Saudi Arabian telecoms regulator the Cisco has reported a strong reception for its Idea London centre in the year since it opened, and has showcased a number of young companies that are now residents of the centre. Founded in collaboration with University College London and DC Thomson, the Idea London centre has been open since October 2013.The centre lies in London's Shoreditch start-up scene, and offers guidance, advice, support and office space for entrepreneurs to get products, services and ideas up and running. Start-ups wanting

to take part need to attract one of the founding companies to be their 'champion' before they can make use of the support on offer. Tom Kneen, head of the British Innovation Gateway at Cisco, told V3 that the growth of Idea London has helped the centre stand out against the incubators and accelerators found in London's Tech City and other UK technology clusters."We've certainly got ourselves on the map in a year in this centre as a whole," he said during a tour of the facilities. Kneen went on to explain that Cisco got involved in establishing the Idea centre as an extension of work to support innovation in the UK's technology industry, notably with the British Innovation Gateway program. Cisco has been active in investing in and acquiring start ups, and V3 asked Kneen whether Idea London is effectively an area where the company can build up companies before absorbing them into its corporate fold. Kneen did not describe this as a core motivation for the company, but added: "Probably further down the track these companies could form the sort of companies that Cisco could invest in." He went on to explain that Cisco is particularly interested in monitoring start-up activity and innovation pertaining to the Internet of Things (IoT). "In the context of the IoT and the Internet of Everything, clearly this is a route to find what's out there because the market is very young," he said. "It is a hunting ground for us to find interesting companies that we can work with in some way, but importantly that our customers can work with as well." Cisco is also involved in the Digital Catapult, another centre that offers support and guidance for start-ups and has a focus on building the UK's presence in the IoT market. Idea London has attracted start-ups in industries ranging from education and IT, to fashion and gaming. Stand out examples include a visual search engine for fashion, Snap Fashion, which allows people to take a photo of a garment from a catwalk or a magazine and find it or a similar item online via a mobile device or web browser. Another is Energy Deck which is working on an online energy management platform that allows companies to see where energy is being consumed in a building and take action to improve efficiency and costs. KO-SU, meanwhile, aims to provide a web platform that allows teachers to create activities and classes for mobile devices, which can be used to extend education beyond the traditional classroom. The Idea centre has also attracted technology start-ups specializing in healthcare, which has been touted as a significant opportunity for entrepreneurs

Ooredoo's fiber network marks major milestone

Ooredoo yesterday announced it has reached another milestone with more than 200,000 customers in Qatar connected to its faster fiber network. The achievement was reached on December 13. Ooredoo's achievement in providing Ooredoo Fiber – combined with Ooredoo's recent launch of 4G Plus (Advanced LTE) – means that Ooredoo customers can stay connected to the fastest-available Internet at home and while moving across the country. Already this year, an official report from the UN Broadband Commission stated that, with 96.4% penetration, Qatar has the second highest percentage of household broadband of any developing country, after South Korea. Ooredoo has managed to accelerate the pace of people being connected to Fiber in 2014. Around 9,000 homes a month are now being linked to Ooredoo Fiber. Sheikh Saud bin Nasser al-Thani, CEO, Ooredoo Qatar, said: "As our community prepares to celebrate Qatar National Day together, I am proud that Ooredoo has lived up to its promise to connect people to the fastest-available Fiber network." Earlier in the year, all 1Mbps plan customers enjoyed a ten time speed increase to 10Mbps, while 10Mbps customers were boosted to 25Mbps, with no additional charges. Since its launch in 2011, the fiber network has not only transformed the broadband Internet market but also the digital entertainment industry in Qatar. Ooredoo fiber customers can watch Next Generation Mozaic TV and the Mozaic GO app, with high-definition programming and a range of advanced features including the ability to pause, rewind and record TV from their remote control. Home users and business customers can access the fastest Internet speeds – the 100Mbps plan – for QR650 per month, with basic Fiber packages starting at QR233 for 10Mbps home broadband and voice services. Ooredoo has a real-time online fiber availability map, enabling customers to track the roll-

out progress of the network. The map is live on Ooredoo's website and allows customers to find out whether they qualify to upgrade their service by checking if they are in a fiber-ready "Green" area. Ooredoo's investment in Fiber will continue throughout 2015. In addition to expanding the network across Qatar, Ooredoo is planning a sizeable infrastructure investment and capacity-building program in the lead-up to the FIFA World Cup 2022.

Viva Bahrain Eyes Data Growth As Per-User Call Income Falls

Viva Bahrain, the kingdom's No.3 mobile operator by subscribers, is betting on rising data revenue to offset falling per-user call income, its chief executive told Reuters. Wholly owned by Saudi Telecom Co (STC), Viva launched operations in March 2010. It competes with former monopoly Bahrain Telecommunications Co

(Batelco) and Zain Bahrain, a unit of Kuwait's Zain, as well as about 10 Internet service providers. "Worldwide, operators are seeing a decline in ARPU (average revenue per user)," Ulaiyan al-Wetaid, chief executive of Viva Bahrain, told Reuters via email. "Driven to some extent by falling voice revenues as well as competitors actions, it is a challenge all operators face. In Bahrain, the decline in ARPU is offset by the increase in revenue from data." Across Bahrain's telecoms sector, voice calls accounted for 64 per cent of the operators' revenues in 2013, data was 18 per cent, text messaging four per cent and subscription payments 14 per cent, according to the Telecommunications

Regulatory Authority (TRA). Operators' per-user revenue fell by about a tenth last year, the TRA says. As a privately held company, Viva does not publish its accounts, but Wetaid said the company was profitable and its revenue rose 15 per cent in the first half of 2014 compared to the year-earlier period. Full-year revenue in 2013 rose 21 per cent, he said, declining to provide further details. "Data now accounts for a quarter of our revenues and our estimate is that this will only increase over the next few years," said Wetaid. Unusually, 90 per cent of Bahrain's broadband subscriptions use mobile, with the remainder using fixed networks and Viva has invested heavily in building a fourth-generation (4G) network. As of the end of 2013, Bahrain had 2.21 million mobile subscriptions, according to the TRA. Batelco had 868,000 mobile subscribers at that time, its annual report showed, and Zain Bahrain had 772,000, according to parent firm Zain's filings. That would imply Viva Bahrain had 570,000 subscribers, making it the No.3 operator.

Google in Talks to Expand 1Gbps Ultra-Broadband Service to India

It has been widely reported across the Indian media this week that the search engine giant Google is having talks with the IT Ministry of India for the company to roll out 1Gbps Fiber broadband service in the country as part of the Indian Goverment's Digital India program. Google started rolling out the ultra high speed broadband in Kansas City in 2011 and has since expanded the service to 34 more cities in the US. Google touts its gigabit broadband initiative as a major growth enabler, saying that "a world with universal access and 100 times faster internet could mean 100 times the possibilities" According to top officials from India's IT Ministry, the discussions on the project are still at an initial stage. "We are keen to partner a company like Google in furthering the Digital India plan. Modalities have to be worked out," the official said. Google's ambition to expand its ultra-broadband service to the world's largest nation however has its challenges as India's telecom regulations require any company providing broadband service in the country to obtain a license which typically has to be acquired via an open market auction.

Zain holds leadership workshop to support future direction

Zain Group, the leading telecom innovator across the Middle East and Africa, announces the successful hosting of a Creative Leadership

Workshop, which was held in Kuwait under the patronage of Zain Vice-Chairman Bader Al Kharafi , Group CEO Scott Gegenheimer, Zain Kuwait CEO Omar Al Omar and attended by senior management from Zain Group and its eight operations. Such workshops are in line with one of Zain Group's strategic pillars to develop its people, availing the foremost thought leaders and learning materials to staff throughout their careers with the company. In this case, the workshop was run by creativity scholar Dr Babis Mainemelis, who is Associate Professor of Organizational Behavior at ALBA Graduate Business School at The American College of Greece and a visiting Professor to London Business School and Porto Business School as well as being an Editorial Board Member of the Academy of Management Review. The workshop blended cutting-edge research on creativity in organizational settings with numerous concrete examples of creativity and innovation practices in a wide range of organizations and industries. The format of the delivery was highly interactive, emphasizing discussion, questions, and some brief experiential exercises. Dr. Mainemelis' early research examined the role of time and timelessness in the creative process and the role of play in individual and social creative functioning. His more recent research explores creative deviance, creative leadership, and creative careers, and the workshop he led for Zain Group senior management touched on the areas of Creative Capabilities, Creative Leadership, Innovation and Ambidexterity, and Creative

Work Environments. Commenting on the successful completion of the workshop, Bader Al Kharafi said, "At the board level, we make no secret at Zain that our number one asset is our people. We are keen to continue investing in them, exposing them to latest in leadership creativity and allowing them to reach their full potential. By doing so, we believe this will enhance performance and drive shareholder value." On his part Scott Gegenheimer noted, "Dr. Mainemelis is a world-renowned expert in the field of creative leadership and we consider ourselves fortunate for him to have come and shared new insights and management style ideas with us. As senior management, we will also continue to strive to be better leaders, which will in turn create a better Zain and support our future strategy of being a leading digital innovator."

Accenture to go on a major hiring spree

Accenture, the global consulting and technology services firm, is to recruit 1,600 technology, industry & IT specialists by the end of August in 2015 positions ranging from entry level to experienced executives. These roles will focus on areas including information architecture, analytics, mobility, eCommerce and digital marketing as well as financial services, retail, communications, media & entertainment and energy. Prime Minister David Cameron said: Backing business to create jobs is a key part of our long-term economic plan to secure a brighter future for Britain. Accenture's plan to create hundreds of jobs across the country is great news and will mean financial security for more hardworking people." Olly Benzecry, Accenture's country managing director in the UK & Ireland, added: "We are looking for skilled individuals with the drive to excel in a dynamic and fast moving environment. Above all, they must share our commitment to client service as we continue to help companies across industries transform themselves for success in the new digital landscape." "In return, we are offering people a clear, flexible career path alongside world-class training and professional development opportunities," he stated. The new recruits will be based at Accenture's existing offices in London, Newcastle, Manchester, Edinburgh and Aberdeen in tandem with 60 new apprentices.

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A journey of innovation at the heart of technology

alfa celebrates this year 20 years since its foundation as Lebanon's first cellular network.

And today, as the company looks back on a 20 year success story, many milestones are brought to mind since 1994 when it made the GSM service available to the Lebanese until becoming today THE leader in bringing new and advanced telecommunication technologies to the Lebanese mobile market over the past few years, under the management of Orascom TMT.

With the role of the telecommunications sector ever evolving, alfa has taken the pledge to be at the heart of technological and the digital revolution. From the early 2000s until today, the journey of network innovation has been alfa's flagship that has reconfirmed its leadership in the mobile sector.

In that context, alfa's network innovation milestones under the management by Orascom TMT have been the introduction of 3G+ (2011) and 4G LTE technologies (2013) in record periods, which enabled mobile users, for the first time in Lebanon, to browse internet at exceptional speeds not experienced before, that reach up to 40 mbps.

These milestones have been described as "historical achievements" for the Lebanese mobile sector, as alfa CEO and Chairman, Mr. Marwan Hayek comments: "alfa is proud to have led the introduction of these technological and historical achievements in the telecommunications sector in Lebanon which allowed it to take a major leap forward and reconfirm its leading position in the region."

Network expansion
Fuelled by the high demand for mobile services and as part of its

commitment to make the mobile service reachable to everyone, alfa has focused over the past two years on further expanding the footprints of its network.

As part of this expansion strategy:
• 40% of additional 2G sites have been installed which increased the number of 2G sites to a total of 1200 covering 99.8% of the Lebanese inhabited territories.
• The 3G network capability has been doubled to cover 98% of the Lebanese inhabited territories, reaching 1100 total 3G+ sites. In addition, and since the 4G LTE project was launched in May 2013, alfa has doubled the number of 4G sites to more than 240 sites at present that cover 30% of the subscriber base in the Capital Beirut and in major cities.

Users' trends

Mobile users in Lebanon are eager for connectivity on the go. Users' trends and behaviors are a live example for that.

In a record increase that has exceeded all expectations, data subscribers on the alfa network surged by 370% in three years to reach 1.1 million as of the end of Nov. 2014. Furthermore, and in an indicative figure, the number of data subscribers has become equivalent to 60% of the overall subscriber base, and the penetration of smartphones on the alfa network reached 75% by end of Nov. 2014, which is quite remarkable exceeding rates in developed countries.

Technology 4all

As most of the traditional telecom markets are becoming increasingly saturated, the Telco big players' business strategies began shifting to new playfields. For quite a while now, we have been hearing about terms like B2B, M2M and cloud services. Thus the role of the telecommunications sector has become cross-functional in a way that it can contribute to the promotion of digital economy across sectors.

alfa has been taking several initiatives to promote this endeavor and employ its infrastructure at the service of the community and the end consumer and at the same time creating new opportunities for investors and entrepreneurs.

To give few examples:
*   alfa introduced in 2014 the "alfa app store", a platform that enables the talented Lebanese developer community to benefit from its infrastructure, and showcase their creativity to alfa's growing subscriber base which reached 1.9 million subscribers.
*   alfa has embarked on a partnership with Bank Audi, a leader Lebanese bank, to introduce the contactless technology "Tap 2 Pay" service which has shaped a new payments landscape in Lebanon that brings ease, security and speed to transactions.
*   alfa continued to develop partnerships with third party service providers and has partnered with Anghami, a leader in the music business in the Arab World, on launching the "alfa Anghami" bundle that allows music lovers to listen to their favorite songs at convenient and affordable prices.
*   In addition, and as part of its Corporate Social Responsibility program, alfa has been assisting NGOs in facilitating their work and access to the community.

Services 4-all

Over the past few years, alfa's success journey with its subscribers has been driven by the introduction of more sophisticated pricing schemes through bundles addressing the market segments with more granularity which showcased alfa's commitment to meet the growing subscribers' needs for mobile services and especially mobile internet. alfa's exclusive offerings have

And on top of the priorities for next year, remains the network expansion plans to increase the network capacities to cater for subscribers' growth. alfa is also in the process of launching new services that will make it easier for subscribers to manage their services on their postpaid and prepaid lines. alfa also intends to expand its cooperation with various sectors in the field of M2M to maximize the benefits of its infrastructure to the consumer.

alfa remains like never before committed to offering a sustainable service to its subscribers, and with the Lebanese telecoms sector growing at an unprecedented pace, the possibilities are limitless.

been very positively perceived by users and helped grow the subscriber base and data usage, especially with bundles like "Khat 3askari" or "Army Line" and "U-Can" for people with special needs, in addition to the "U-Chat" line which primarily targets the youth segment, a segment that is owned by alfa and to whom specific offers and products are tailored.

Looking forward to the next 20 years alfa looks forward to the challenges of the next 20 years in the business, with great enthusiasm to keep up with the pace of the huge demand for mobile services.

alfa celebrates this year 20 years since its foundation as Lebanon's first cellular network. And today, as the company looks back on a 20 year success story, many milestones are brought to mind since 1994 when it made the GSM service available to the Lebanese until becoming today THE leader in bringing new and advanced telecommunication technologies to the Lebanese mobile market over the past few years, under the management of Orascom TMT.

REGIONAL NEWS

REGIONAL UPDATES

Etisalat to build 200 base stations in 100 days

Etisalat's Sri Lankan unit is expanding its 2G and 3G network coverage via the deployment of 200 base stations in 100 days, across eight districts in the country. The project is planned for completion by the end of January 2015 and is part of the cellco's coverage and capacity expansion program. TeleGeography's GlobalComms Database notes that Middle Eastern-backed Etisalat is the third placed mobile operator in Sri Lanka with 20.3% of the country's subscribers at 30 June 2014, while at the same date its 3G coverage extended to approximately 70% of the island's population.

LTE-A: Ooredoo do that, do they?

Ooredoo Qatar has launched the country's first commercial LTE-Advanced (LTE-A) service, boosting its network's peak mobile downlink data speeds to 225Mbps from its previous limit of 150Mbps, the operator announced in a press release. The '4G+' services are initially available in parts of Doha – Corniche, West Bay lagoon, Katara, Souq Waqif, Al Rayyan, Shahaniya and Sealine – from December 1 at no added cost for users with devices supporting LTE-A on either 800MHz or 2600MHz

frequency bands. Ooredoo's sole LTE radio and core network technology provider Nokia Networks issued its own press release highlighting the project's technical advancements, noting that carrier aggregation (CA), a key feature of LTE-A, enables operators to create larger, virtual carrier bandwidths for services by combining separate spectrum bands, thus boosting network capacity and speed as well as performance. For the Qatari launch, Nokia provided its 'Flexi Multiradio 10' base stations, Evolved Packet Core technology and NetAct network management system; it combined the 800MHz and 2600MHz spectrum bands by upgrading the currently installed equipment with its CA software; while the vendor also provided network planning services. Waleed Al-Sayed, COO, Ooredoo Qatar, said: 'The demand for higher network capacity and speed in malls, stadiums and at national events is growing at a rapid pace. With Nokia Networks' help, we are now able to address this demand, offering the fastest network with latest technology for our customers.

Mobily expands fiber-optic network to 20 cities

Saudi Arabian telecoms operator Etihad Etisalat (Mobily) has extended its fiber-optic network to the cities of Jazan, Unaizah and Al Hofuf, thus bringing the total number of cities served to 20.

According to the Saudi Gazette, the telco is aiming to cover more than one million residential units with its fiber network by the end of the year. Mobily's chief operating officer Nasser Al Nasser commented: 'Mobily is in a race against time for the deployment of a fiber-optic network in all regions of the Kingdom; we work in accordance with a technical plan that took into account the speed of implementation and the quality of provided service.' According to TeleGeography's GlobalComms Database, in June 2011 Mobily awarded contracts worth SAR400 million (US$106 million) to install metropolitan fiber-optic networks in four different cities; more than 70,000 households in Riyadh, Jeddah, Dammam and Al-Khobar were covered under the first phase of the project, with the operator rolling out around 4,000km of fiber. By end-June 2014 the company had connected more than 850,000 residential units with fiber.

Etisalat Wins Three CommsMEA Awards

Etisalat Group collected three prestigious awards at the 9th Annual CommsMEA Awards, which took place at Sofitel, The Palm in Dubai. Among the awards Etisalat received was the Telecom Deal of the Year award, in honor of the group's acquisition of a 53% stake in Maroc Telecom in May this year. The telecommunications giant also received the African Mobile Operator award for the expansion of its footprint in African continent to 14 markets, and Overall Mobile Operator of the year for Etisalat - UAE, recognizing the groundbreaking operations Etisalat is leading in the UAE. Ahmad Julfar, CEO - Etisalat Group said: "2014 was indeed a year of achievements, and I would like to congratulate our employees in all our markets for this remarkable recognition from our industry, which is bestowed upon those who have helped turn the telecommunications sector in the Middle East, Asia and Africa into one of the most dynamic and vibrant in the world. I am very proud." Julfar added, "I would also like to thank all our partners and customers across all the markets we operate in, as well as the Board of Directors and shareholders of Etisalat for their contribution to Etisalat's successful journey and enabling the Group to make these achievements." The annual CommsMEA Awards acknowledges operators and individuals who have taken leadership roles in the region's fast-growing and rapidly changing telecoms sector.

The awards also honor companies that have invested in technology, implemented winning strategies and developed services to capture the hearts and minds of end users.

Ooredoo breaks world record in mobile broadband speed

Ooredoo Qatar, along with partners Nokia Networks and China Mobile, has set up a new world record in mobile broadband speed with over 4.1 Gbps speed over the TDD-FDD LTE network. This was showcased yesterday at the ITU Telecom World 2014, being held at Qatar National Convention Centre. Announcing the details, Waleed Mohamed al-Sayed, chief operating officer, Ooredoo Qatar, said that using this feature, users can download a full-length 5GB HD movie in just 11 seconds and simultaneously upload a 30MB video in less than a second. According to the official, the partnership has set an industry benchmark at 300 Mbps uplink with 3.8 Gbps downlink. Supported by the Global TD-LTE Initiative, the speed was achieved by combining TDD- and FDD-LTE spectrums and aggregating 10 carriers with 200 MHz bandwidth. Al-Sayed said: "We are building the biggest, fastest network in Qatar, so that customers across the country can access next-generation wireless data services. We are very proud that the first-ever ITU Telecom World to be held in Qatar should showcase this record-breaking success with the support of Ooredoo. By deploying our advanced LTE network in Qatar, we are truly laying the foundation for the future. The official also said that this development was a challenge on the other stakeholders in the telecom industry for devices that can perform faster. "We are putting pressure on manufacturers of mobile devices as well as regulators to come up with new devices that can match the speed. We are also calling upon the regulators, the decision makers and the ITU to push the sector to provide us with some devices that can cater to the new levels of speed." He said: "Earlier we used to spend hours and subsequently minutes for the download and upload of data. Now we are not going to wait as it can be downloaded in seconds. People need not wait for longer duration for downloading. This is going to make everyone's life easier in all the sectors including business, government, as well as for the consumers. Al-Sayed

also said that the whole concept was tested in the laboratories in China as well as in Qatar. "It worked in the labs and we are trying to convince the manufactures that there is a new generation of high speed. In a few years, it will be commercialized. It might take some time but it is going to be a reality," he added.

ictQATAR launches beta version of Qatar's ICT Observatory

ictQATAR has announced the beta version of Qatar's ICT Observatory, a central platform of ICT-related data and statistics on Qatar accessible to businesses, entrepreneurs, researchers, decision- and policy-makers, government entities and the public. The ICT Observatory is part of a government-wide effort to "open up" more data to the public to further increase government transparency and accountability. The observatory is a trusted source of information on Qatar's ICT landscape, supports important policy-making and evaluation activities, reduces research and data investments among enterprises and other organizations, and promotes discussion on ICT-related topics. Launched following the release of Qatar's Open Data Policy, the ICT Observatory allows users to view and analyze data from a variety of sources, including specialized surveys on ICT usage and penetration of households, individuals, business and government dating back to 2008; licensed telecom operators; international reports; and aggregated data from other government entities in Qatar, informing users about the continuous developments taking place in Qatar's ICT landscape. "These initiatives will help spur innovation and support researchers in Qatar and around the globe," said HE the Minister of Information and Communications Technology Dr Hessa al-Jaber. "These efforts are critical to advancing a knowledge-based economy in Qatar." Qatar's ICT Observatory has a number of functionalities that allow for useful and quick access to ICT data across various topics, including viewing indicators; generating, browsing and downloading analytical reports and data; creating and reviewing charts and tables; refining and customizing queries; and creating customized reports for further analysis. The observatory uses data visualization tools to help users explore and analyze the data. In-memory technology enables quick dissection of the data and creation of interactive reports through web and mobile devices.

The advanced analytics and data visualization capabilities will help users better understand Qatar's ICT landscape. The final portal will be released in March 2015 and the Arabic version by the end of 2015. The content of the portal will be licensed under a Creative Commons attribution to ensure fair and optimal usage. QNREN, an independent high-speed network, will allow any educational institution (universities, colleges, schools) and research institutions within Qatar to exchange data and services. It also provides international connectivity with universities and research institutions worldwide. QNREN was initiated by Qatar University (QU) and is sponsored by ictQATAR. QNREN has a dedicated dark fiber backbone, provided by the Qatar National Broadband Network (Qnbn), and is capable of 100Gbps with possibility of upgrade. Qnbn will provide also the fiber connectivity to all existing and future members of the network and QU will host the QNREN operation. The first entities to connect to QNREN are QU and College of the North Atlantic. The beta version of the Observatory is available at www.ictobservatory.qa

TRA hosts third eBiz Workshop to promote UAE eCommerce

The UAE Telecommunications Regulatory Authority (TRA) is set to host the third 'eBiz Payment' Workshop in its Dubai headquarters on Monday, 8 December, 2014. The purpose behind the event is to bring together stakeholders from across the eCommerce industry to discuss ways to advance the sector and enhance the online transaction experience of UAE Internet users. Boosting both consumer and business confidence in the safety of the UAE eCommerce system is also a key focus area on the event's agenda. "At the third installment of this innovative workshop series, we have designed the program to provide a holistic view of the ecommerce ecosystem and our goals are to continuously support the people, entrepreneurs and the businesses they represent, to launch their own eCommerce platform and store. We also aim to provide those attending with a full grasp on the sector, by covering

topics that resonate with those in the early stages of development or working in the industry," said H.E. Hamad Obaid Al Mansouri, UAE mGovernment Director General. "eBiz Payment aims to gather key players in eBusiness and the eCommerce industry. As new drives in this sector are highlighted throughout the session, the advances within eCommerce in the region and the UAE are effectively showcased," he added. According to the Federal Law No. 1 of 2006 on Electronic Commerce and Transactions (the "Act") the Telecommunications Regulatory Authority of the UAE was appoint as the authority entrusted with overseeing certification services in the UAE pursuant to Article 20 of the Act. The Cabinet approved this recommendation pursuant to its decision no. 8/291 on October 15th, 2006. The mission of the Telecommunications Regulatory Authority eCommerce Department is to promote economic development and technological innovation within the defined parameters of a fair eCommerce regulatory regime in line with international standards

Blocked sites opened by 3m

About 3 million Internet users this year managed to gain access to websites blocked in the Kingdom, an academic has revealed. Nasser Al-Buqami, an IT professor, said this was a 58 percent increase from the year before. Meanwhile, he said Internet penetration has risen from 38 percent in 2009 to 64 percent in 2014, and now stands at 18.3 million users. It would be 87 percent within the next five years, according to recent studies, he said. Young Saudis are the main users, with 72 percent male and 28 percent female. "Riyadh has the highest number of users in the Kingdom at 29 percent, followed by 16 percent in Jeddah," he said. Forty-one percent of Internet users in Saudi Arabia are on Twitter. The Kingdom has the world's highest number of Twitter users in terms of its population size. Indonesia and the Philippines are in second and third places. With the rise in users, there has been an increasing demand for mobile and home-based Internet and broadband services. There have been about 20.7 million subscriptions so far this year, for mostly voice communication services and data packages. This also reveals a growth in Smartphone usage.

Mobily, Zain Saudi proceed with arbitration

Saudi Arabian telcos Etihad Etisalat (Mobily) and Zain Saudi Arabia, who have been embroiled in a payment dispute since last week, have proceeded to the next stage of the arbitration process. According to a press release published on the Saudi Stock Exchange (Tadawul) website, the two operators have selected their respective arbitrators, which in turn have appointed an umpire. At the first hearing, scheduled to take place on 13 December 2014, the arbitration panel will determine the procedures and duration of the arbitration process; further, Mobily will present its demands and supporting documentation, while Zain Saudi will submit its jurisdictional and substantive defences. As reported by CommsUpdate last week, Mobily requested a referral to arbitration with regards to receivables due under an agreement signed with rival Zain Saudi on 6 May 2008. Mobily disclosed that by 30 November 2013, Zain owed it SAR2.2 billion (USD586.3 million) for the provision of national roaming, site sharing, transmission links and international traffic; the company said that it could not reach an amicable settlement with its rival for the amount due, so its management decided to revert back to arbitration. For its part, Zain Saudi has deemed Mobily's claims as 'unfounded', with Hassan Kabbani, Zain Saudi's chief executive, cited as saying: 'We have been asking Mobily to provide documentation that could justify this claim and so far they have failed to do so – these claims are not valid ... It is something very serious – there is no way this amount is feasible or reasonable.'

Viva Kuwait shares officially listed on local bourse

Telecoms operator Viva (Kuwait Telecom Company) has officially begun trading its shares on the local stock exchange, Albawaba reports. As previously noted by TeleGeography's CommsUpdate, the operator received regulatory approval from Kuwait's Capital Market Authority (CMA) to list on the local stock exchange in September 2014, almost six years after it completed an initial public offering (IPO), which raised KWD25 million (USD94 million) in a sale open to Kuwaiti nationals only. Viva's chairman, Adel Mohamed el Roumi, commented:

'Listing the company's stocks on the Kuwait Stock Exchange (KSE) is a milestone for our board members, executive management, and each of our employees. It is a pivotal point that reflects Viva's strategic direction of continued expansion and growth as the confidence of various shareholders and investors is gained.'by various potential bidders within the framework of the minister's recent visits to Dubai, South Korea and China. In October Harb extended the management contracts for Touch (Zain) and Alfa (Orascom) for six months to give the telecoms ministry time to finalize terms and conditions and gain state approval for the longer-term contracting process. During the mooted two-year management period, Harb intends to push for implementing delayed telecoms sector reforms as per Law 431 of 2002, which stipulates the transformation of state-owned incumbent fixed line operator Ogero into Liban Telecom, an integrated telco licensed for all mobile/fixed services and earmarked for privatization. Harb explained that the government would look to attract a major international strategic partner 'such as Vodafone or Orange' to take a 40% stake in Liban Telecom, thereby significantly boosting competition.

Lebara launches MVNO services in Saudi Arabia

Mobile virtual network operator (MVNO) Etihad Jawraa (Lebara) has launched commercial services in the Kingdom of Saudi Arabia (KSA), piggybacking on Etihad Etisalat's (Mobily's) network. The operator says it is targeting migrant communities with its pay-as-you-go SIM deals and related products; The country is home to more than eight million foreign workers. Fadi Kawar, CEO of Lebara KSA, commented: 'One of Lebara's main objectives in KSA is to bridge the gap and provide more affordable international and local voice, as well as data services for our market segments in KSA, while maintaining high quality levels.' As previously noted by CommsUpdate, in June 2013 Saudi Arabia's telecoms watchdog the Communications

and IT Commission (CITC) shortlisted three companies for MVNO licenses, including Lebara in partnership with second-placed cellco Mobily. The MVNO initially planned to launch in March 2014, but it subsequently postponed the commercial deployment of its services, allegedly due to interconnection issues with other operators; however, it was beaten to the punch by rival Virgin Mobile Saudi Arabia, which launched its commercial offering over Saudi Telecom Company's (STC's) network in September 2014 via two brands – Virgin, targeting the youth market (which comprises nearly half of the population), and FRiENDi Mobile, aimed at expatriates in the country

Derdouri: 'The opening of the capital of Algerie Telecom is not the best solution'

The Algerian government is reportedly reluctant to privatize domestic incumbent Algerie Telecom (AT), with Zohra Derdouri, Algeria's Minister of Post and Information Technology and Communication, cited by domestic news source Al Moudjahid as saying: 'The opening of the capital of Algerie Telecom is not the best solution.' The minister added: 'One country, whatever it is, must have an operator of its own, for, inter alia, to preserve its security and sovereignty ... I have not received any guidance in this regard. But in the case [where there is open request for AT capital], I will defend my position until I am proven wrong.' According to TeleGeography's GlobalComms Database, plans for privatization of state-owned AT have been mooted for several years but have come to nothing. In February 2009 AT chairman Foamed Benhamadi claimed that opening up the company to outside investment was no longer necessary and that plans were under way to pump EUR100 million (USD137.5 million) into the development of fiber-optic networks over the next five years. However, in October 2013 local media reports revealed that the Conseil des participations de l'Etat (CPE), the agency managing the Algerian government's stake in state-owned business entities, was planning a public sale of the shares of ten nationalized companies, including AT. Further, in April 2014 it was suggested that the government was planning to put 20% of Mobilis' share capital up for sale on

the country's bourse. Previously, both Orange Group of France and UK-based Vodafone have expressed interest in entering the Algerian market as part of collaboration with domestic operators.

Ooredoo claims 200,000 fiber broadband customers

Ooredoo Qatar reached the milestone of 200,000 customers connected to its fiber broadband network on December 13, it announced in a press release yesterday, having launched the high speed triple-play connectivity service nearly three years ago. Ooredoo added that around 9,000 homes a month are currently being connected to Ooredoo Fiber, supporting 100Mbps broadband speeds, voice telephony and IPTV ('Mozaic TV'), while the lion's share of its existing fixed broadband customers have now been transferred from ADSL connections. Sheikh Saud bin Nasser al-Thani, CEO, Ooredoo Qatar, said: 'As our community prepares to celebrate Qatar National Day together, I am proud that Ooredoo has lived up to its promise to connect people to the fastest-available fiber network.' Ooredoo's fibred investment will continue throughout 2015, while the full-service operator is also planning a significant infrastructure investment and capacity-building program in the run-up to the FIFA World Cup 2022 hosted by Qatar.

ANRT establishes the rules for passive access to the local loop

Morocco's telecoms regulator, the Agence Nationale de Reglementation de Telecom (ANRT), has published its decision ANRT/DG/No.14 (dated 9 December 2014), which establishes the technical requirements and tariffs for passive access to Maroc Telecom's (IAM's) fixed local loop. The new document comprises eight articles and lifts all restrictions on accessing the physical components of the wired local loop, which the incumbent operator has established in order to limit the use of its equipment by competitors. The ANRT gave the former monopoly operator a deadline of 31 December to provide an updated wholesale offer 'integrating all requests for amendments and improvements requested by the ANRT' to rival operators Meditel and Inwi. In June

2014 the ANRT published the rules governing local loop unbundling (LLU) in Morocco. Under the new regulations, Maroc Telecom is required to provide colocation for third-party operators' equipment in its existing cabinets, install multi-operator cabinets for part of their future nodes and establish an active wholesale offer for third-party operators under a virtual unbundled local access (VULA) model. Although the incumbent telco was initially required to provide a technical and tariff wholesale offer for passive access to its fixed local loop by 1 August, it was accused of failing to publish wholesale offers that cover shared cabinet access, full and partial unbundling and bitstream access on several occasions.

Lebara becomes Saudi Arabia's second MVNO

Service provider rolls out prepaid SIMs targeted at country's 10 million expats. Lebara this week became the second service provider to launch MVNO services in Saudi Arabia. The London-based company, which targets migrants with SIM-only price plans and low-cost international calling packages, has begun offering prepaid services via host network Mobily as part of a consortium that includes an unspecified number of Saudi investors. "Offering high quality and low cost mobile products to migrant communities is the driving force of our business. With today's launch we'll be able to offer this service to the millions of expats living and working in Saudi Arabia, helping them stay connected to their friends and family at home," said Lebara CEO Yoganathan Ratheesan, in a statement on Monday. Lebara puts the number of expatriates living in Saudi Arabia at approximately 10 million. It has become the second company to launch MVNO services in Saudi Arabia after Virgin Mobile, which went live on STC's network in late September. Like Virgin, it was awarded a full MVNO license by the telecom regulator, the Communications and Information Technology Commission (CITC) in March and originally aimed to go live in the second quarter. A third license was issued to Dubai-based

phone retailer Axiom. However, its license was withdrawn and retendered before it could launch on host network Zain because it failed to submit unspecified documents to the CITC.

TRA launches the new UAEPedia website and app

The Telecommunications Regulatory Authority (TRA) launched the new UAEPedia website and smart device application at a workshop at its Dubai office. Several representatives from federal and local government entities had gathered to participate in the workshop. The workshop comes in line with the efforts of the TRA to shift towards a mobile government in order to enhance and improve the nation's ICT sector. The UAE mGovernment team had been working hard to develop and re-launch the UAEPedia website to enable a greater degree of interaction with the public. The UAEPedia app is available in the official UAE mGovernment app store. "UAEPedia represents a national platform for information concerning our homeland: its history, heritage and cultural and political figures, while housing countless informational channels. We have developed this encyclopedia to promote patriotism towards our nation and its leadership," said H. E. Hamad Obaid Al Mansoori, Director General, UAE mGovernment. "The project is based on the principle of sharing, which will flourish with the efforts of many other entities with whom we will be working in the near future. Hence, I would like to thank all the participants in this workshop in advance and invite them to actively contribute information to enrich the encyclopedia with their knowledge," he added. Stressing the importance of preserving the Arabic language and making information available online in Arabic, Al Mansoori said, "The UAEPedia comes in line with our ongoing efforts to support Arabic content and the creation of an electronic record that conveys the UAE's message to the world. Each contributor would have a responsibility with regard to their role in building the UAEPedia and to ensure constant flow of accurate information about our beloved nation." The workshop included the screening of a short video about the UAEPedia application and an introduction to the new version of the encyclopedia. It also included a session to address the participants' queries relating to the encyclopedia.

STC to book SAR166m gain in 4Q14 on land transfer

Saudi Telecom Company (STC), the country's leading telco in terms of subscribers, has announced that it expects to book a SAR621 million (USD166 million) gain in Q4 2014 due to transfer of some of its land holdings to the government. Previously, in June, the company said that the state had seized a 1.05 million square-meter plot in the Al Faisaliah district of Riyadh, with a book value of SAR105.3 million. Earlier this week, the operator confirmed that the government had begun transferring ownership of the land in exchange for compensation of SAR726.3 million. However, the telco added that it did not consider the compensation amount to be fair, and disclosed that it would appeal the decision. Reuters writes that some estimates suggest that the land appropriated from STC could be worth between SAR.36 billion and SAR2.83 billion.

Three of four UAE residents use Smartphones

With over a 76 percent Smartphone penetration, more than three out of four people in the UAE are using Smartphones. New Smartphone releases have also seen a 41.67 per cent growth in the third quarter of 2014. "The shipments were better than expected and unusually high. Usually, the third quarter of the year is a slow quarter," said Nabila Popal, research manager for mobile handsets at International Data Corporation (IDC). Samsung seems to be the preferred brand amongst UAE Smartphone users, holding a 37 percent of the market share in the third quarter. It was followed by Apple with 12 percent and Lenovo with 10 percent. In the basic phones segment, Nokia is still reigns with about 68 per cent share of the market in the UAE. "As long as Dubai continues to be a transit city with a large proportion of construction workers, these phones will remain to be in some demand here. Additionally, phones have become the highest trading commodity. Dubai is not just a transit city for people, but also for phones — that are re-exported to other countries from here," Popal said.

Beyond Internet Access

Asia has the highest number of internet users in the world with almost half of its population are connected to the internet. Although Africa is lagging behind with 9.8% of its population has access to the Internet but it is leading the mobile broadband growth worldwide, the Mobile-broadband penetration in Africa reached close to 20% in 2014 up from 2% in 2010 [source : ITU 2014].

The Internet has demonstrated that it is the fastest growing communication medium in mankind history, the number of internet users has increased tenfold from 1999 to 2013. The first billion-internet user was reached in 2005, the second billion in 2010 and the third billion in 2014.

The number of internet users has reached 3 billion users in November 2014, which means about 40% of the world's population are currently using the internet and approximately one out of three people in the developing countries are is online.

Mohamed EL Bashir
Technical Affairs Manager
**Qatar's Communications
Regulatory Authority**
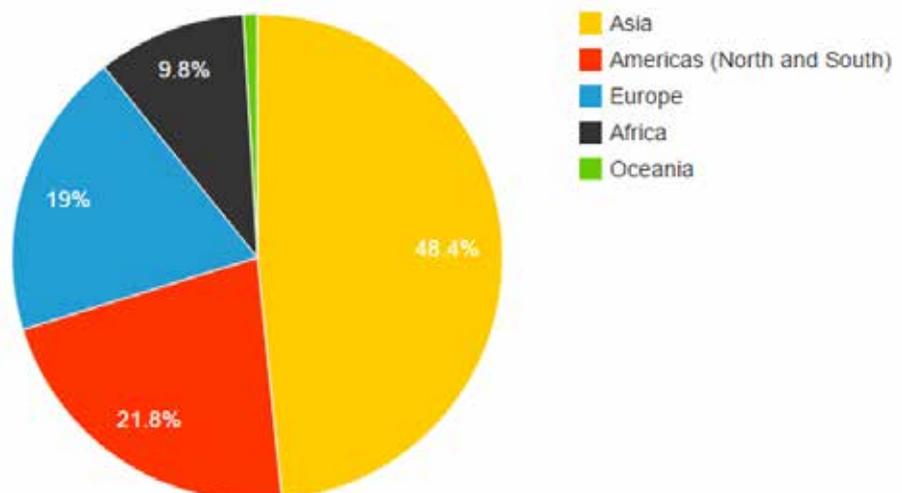
Source : Internetlivestats.com

The Internet access rates continues to grow at a significant pace. However, much of the internet development work remains to be done to ensure the economic and social benefits of the Internet to everyone. Furthermore, the online internet users are experiencing significant variations in their user experience depending on their country and jurisdiction.

With the huge use of mobile broadband that can be rolled-out faster and at a lower cost than fixed broadband, Internet access is no longer a critical issue for those in the developing world as it was used to be decades ago. Nonetheless, internet service cost affordability remains as a

of its creation, IPv4 was not intended to satisfy the needs of a global large Internet as its today. It was developed to support the needs of experimental research and government networks. IPv4 is limited resource and it is fully deplete day has already come; very soon, IPv4 will be fully depleted around the globe.

As Mobile operators and wireless service providers plan for the next generation high-speed mobile networks, they must keep in mind that IPv4 exhaustion will not just limit growth, but may also affect and even impair their existing customer's internet services experience. In 2009, the USA mobile operator Verizon

local Internet service providers (ISPs) to exchange traffic directly with one another in the country or regionally, rather than sending internet traffic

over international transit links. IPX has the benefit of reducing the latency of traffic exchange; which results in a faster and better quality of internet usage experience, as internet traffic does not have to travel outside the country and sometimes the continent, to be exchanged is also saving money that was being spent on international transit links.

IXPs are a key local interconnection points and traffic technical facilities where all Internet players reduce the

Density distribution of Internet Exchange Points (darker blue denotes higher density)
Source: Packet Clearing House Report on IXP Locations, at: https://prefix.pch.net/applications/ixpdir/summary/

significant barrier many internet users in the developing or lest developed countries.

There are two important technical components that needs to be considered to ensure sustainability and growth of Internet services in any given country, the first is the migration and adoption of the Internet new IP address protocol (IPv6) and the second is the establishment of national Internet Exchange Points "IXP".
Every computer, mobile phone, and any other device connected to the Internet needs an IP address to communicate with other devices. Therefore, IPv6 migration is critical for the growth of the internet; the internet has been growing for decades using the IPv4 address space. At the time

released technical specifications for devices to operate on its "next-generation" networks.

Since 2000 Governments around the world started focusing their efforts to ensure their large Governments networks are Ipv6 ready, for example the USA government specified in 2005 that the network backbones of its federal agencies had to be upgraded to IPv6 by June 30, 2008; this objective was completed before its deadline. The Chinese Government as well implemented a five-year plan for deployment of IPv6 called the "China Next Generation Internet".

National Internet Exchange Points "IXPs" play a critical role in routing traffic more efficiently, by enabling

number of network hops to exchange traffic, increase the number of route options available, optimize use of international Internet connectivity, improve network resilience and may increase Internet penetration and usage over the long-term.

Worldwide there are 114 countries that has established one or more IXP, nine countries have more than ten IXPs, including: U.S. (84), Brazil (28), Russia and France (21), Japan (16), Germany (14), UK (13), Sweden (12), and Australia (14). Africa is also has good growth of established IXPs, South Africa has 6 IXPs, Angola, Egypt, Kenya, Tunisia and Tanzania has two IXPs each [source : Packet Clearing House, IXP Report 2014].

REGULATORY NEWS

**REGULATORY
UPDATES**

Net-neutrality realities changing quickly for business and regulators

The battle for "net neutrality" has waged for more than a decade and is from far over. However, we are clearly moving into a new phase where a variety of policies are being developed, allowing for different things to happen on a country-by-country basis. At the same time, telecom operators and over the top (OTT) players are still bashing each other, but a number of creative agreements will allow consumers to benefit from new experiences. This variety of policies and business strategies will soon provide a better view of what works and what doesn't. The South Korean government has passed what is in effect an anti-neutrality law allowing operators to charge for OTT services. The Chilean and Dutch governments have passed strict net-neutrality pieces of legislation. Swiss operators have voluntarily signed a net-neutrality pact. US President Barrack Obama intervened in the American neutrality debate suggesting telecom should be considered a utility regulated by the highly-restrictive "common carriers" Title II section of the 1934 Telecommunication Act which told the then telephone monopoly Bell Systems it was running a public utility, and as such could not use its privileged position to discriminate against people.

In today's world Title II would mandate the strictest form of net neutrality. The EU has proposed similar legislation, but some individual governments are blocking it. The two critical actors in the private sector—telcos and OTT players such as Google, Facebook, Netflix and others—continue to fight for regulation that is beneficial to their particular interests. But at the same time the two sets of players are also negotiating agreements between themselves, whether regulatory authorities like it or not. Creative, mutually-rewarding commercial agreements are being set up. European incumbents are interested in laying down the red carpet for video-on-demand Netflix, because they want to offer more content to fight cable operators. Other telcos accuse Netflix of eating their cake without contributing to the roll out of infrastructure. Facebook is signing so-called zero-rate agreements with mobile operators in Africa and other emerging markets, providing FB and other selected content for free to entice users to enjoy mobile broadband and pay for it in the future. Operators are engaging with Facebook because in countries such as Myanmar, FB is a synonym for Internet. But in some countries, such as Chile, this type of agreement has been blocked in the name of neutrality. Google is also involved in a broad agreement with Etisalat in the UAE to strengthen its services via the operator. Interestingly some operators who are at war with OTTs are making

agreements with them at the same time. The discussion is really evolving into a more complex environment for regulators and business strategists alike. We should be glad there is not a world government to impose a single set of regulations when it comes to such a complex issue as net neutrality. It is too early to put armor on it.

Mobily requests arbitration in payment dispute with Zain

Etihad Etisalat (Mobily), Saudi Arabia's second largest cellco in terms of subscribers, has requested a referral to arbitration with regards to receivables due under a Roaming Service Agreement signed with rival Zain Saudi on 6 May 2008. Mobily disclosed that by 30 November 2013, Zain owed it SAR2.2 billion (USD586.15 million) for the provision of national roaming, site sharing, transmission links and international traffic. The company said that it could not reach an amicable settlement with its rival for the amount due, so its management decided to revert back to arbitration, in accordance with the Arbitration Rules and Regulations outlined in the Service Agreement. The cellco also said that it has already provided a total of SAR1.1 billion against total receivables due from Zain as of 30 October 2014. Mobily said the aforementioned agreement is still valid, although it highlighted that it is' receiving irregular payments for its services'. According to Mobily, both parties have selected their respective arbitrators and the appointment of an umpire is currently underway.

TRAI seeks comments on 2100 MHz reserve price

The Telecom Regulatory Authority of India (TRAI) said on Tuesday that it has been asked to expedite the process for its recommendations on the reserve price of 2100 MHz band and issued the consultation paper to seek comments on issues related to valuation and reserve price. In a statement TRAI said, "DoT requested TRAI to expedite the process for its recommendations on the reserve price of 2100 MHz band and related issues so that the auction of spectrum in this band could be conducted along with the auction of spectrum in the 800/900/1800 MHz bands scheduled in February 2015." The regulator said that the key issues raised in the consultation paper relate

to the roll-out obligations, spectrum cap, different models and approaches for the valuation of the spectrum and estimate of reserve price of spectrum in the 2100 MHz.

France's 700MHz auction expected in 2015

French president Francois Hollande has reportedly announced that telecoms regulator the Autorite de Regulation des Communications Electroniques et des Postes (Arcep) will initiate the process of auctioning frequencies in the 700MHz band for

telecoms services in 2015, Advanced Television reports. Addressing previously expressed concerns of Digital Terrestrial Television (DTT) broadcasters that the allocation would interfere with the plans to migrate the DTT platform to MPEG-4 AVC by 2015 and DVB-T2 by 2023, President Hollande said that France needed an audiovisual sector that could broadcast broadly, effectively and securely, adding: 'This is the objective of transferring the 700MHz band to the telecom sector. The state will ensure that the available resources are guaranteed for broadcasting'. As such, Arcep is expected to launch a tender for the 700MHz spectrum band in November 2015, with projections that the auction could generate up to EUR3 billion (USD3.8 billion) for the treasury

Liberty could exit Germany if antitrust pressure heats up

Liberty Global could leave Germany if pressure from competition regulators halts the US company's growth ambitions in the market, sources have told Reuters. In January 2010 Liberty purchased Unitymedia, which operates

cable networks in the federal states of North Rhine-Westphalia and Hesse, for an enterprise value of EUR3.5 billion (USD4.4 billion), before snapping up Baden-Wurttemberg-based Kabel BW from Swedish private equity firm EQT in March 2011 for EUR3.16 billion. The merger of Unitymedia and Kabel BW was completed on 1 July 2012, creating Germany's second largest cable operator, but last year a regional court reversed the 2011 antitrust approval of the KabelBW acquisition and ruled that regulators must re-examine the deal. Unitymedia filed a complaint against the ruling, though a decision is still pending and could take months, Reuters writes. If the federal court upholds the ruling, Unitymedia KabelBW could be forced to make concessions to protect competition, or even unwind the merger. According to two people familiar with the company's thinking, Liberty is open to selling Unitymedia KabelBW, although Liberty's CFO Charles Bracken told Reuters that he expected the obstacles in the country to be overcome. 'In Germany we are facing a shakedown from the regulators. But the KabelBW transaction will not be unwound. We are working to negotiate a solution with regulators,' the executive was cited as saying.

Regulator's suggestion on India spectrum price by January

Telecom Regulatory Authority of India (TRAI) is expected to give recommendations for base price and valuation of 3G spectrum by early January as the government plans to auction the airwaves along with 2G sale scheduled in February. "There is an open house discussion on December 22 on the issue and the recommendations can be out by the first two weeks of January or earlier," a source in TRAI said. TRAI has issued a consultation paper on valuation and reserve price of spectrum in 2100 MHz band, used for 3G services, on December 2. The Department of Telecom had on October 16 asked TRAI to give recommendations for reserve price of spectrum in 2100 MHz, 2300 MHz and 2500 MHz bands. DoT though on November 27 asked TRAI to expedite the process for 2100 MHz band pricing. "TRAI will give the recommendations of 2100 MHz first and later work on 2300 MHz and 2500 MHz bands," the source said. Telecom

companies as well as the regulator have been of the view that the auction should take place only when adequate spectrum is made available, and the bidding should be held simultaneously for both the services - 2G and 3G. The Department of Telecom is in talks with the Defense Ministry for the vacation of spectrum in 2100 MHz band and there are three possible scenarios under deliberation. In case one, if no spectrum is released by the Defense, then auction can't be conducted in this band.

Sharon White to lead OFCOM

OFCOM on Wednesday named Sharon White as its new chief executive. The U.K. regulator said White, its first female leader, will take up her post in late March 2015. In the meantime, OFCOM director Steve Unger will serve as acting CEO. White will join OFCOM from the U.K. Treasury, where she has served as second permanent secretary since November 2013. She is an economics graduate with 25 years' experience in the public sector and government. In her current role she is responsible for managing the U.K.'s public finances. "Sharon brings with her an outstanding combination of intellect, political acumen and experience leading complex public organizations," OFCOM chairman Dame Patricia Hodgson said, in a statement. Meanwhile, White herself said she is looking forward to taking up her new post. "The communications sector is vital to the economy and delivers essential services to everyone in the U.K.," she said, noting that she has "a fascinating job" ahead of her. White will replace Ed Richards who, after seven years at the helm of the U.K. regulator, will step down at the end of the year.

Bahraini regulator to implement market review to improve regulatory framework

Bahrain's Telecommunications Regulatory Authority (TRA) has released a draft version of a strategic market review (SMR) of the country's telecoms market started earlier this year, designed to improve the industry's regulatory framework. The SMR's remit is to review how competition has developed in the local telecoms market and to amend the regulatory framework as necessary to reflect that. 'The SMR draft report sets out TRA's proposed directions on what should be done to promote an even more efficient and dynamic telecoms market,' said TRA's general director Mohammed Bubashait. 'Through the outcomes of the SMR, Bahrain will be taking significant steps towards ensuring that market regulation is in sync with the recent market and technological developments. The TRA continues to be a highly progressive market regulator, taking pioneering steps to foster efficient market outcomes. We are now keen to consult the industry and other stakeholders to hear their views on TRA's proposed way forward,' he added. The public consultation period will run until the end of January 2015, with the final report on the SMR due for publication in Q2 2015.

UAE: VP stresses importance of technology

Vice President and Prime Minister of the UAE and Ruler of Dubai, Sheikh Mohammed Bin Rashid Al Maktoum, attended the opening session of the first Knowledge Conference, which is being held under his patronage, and organized by the Mohammed Bin Rashid Al Maktoum Foundation (MBRF) at Grand Hyatt Dubai from Sunday-Tuesday. Sheikh Mohammed praised the scholars, urging them to accomplish more technical and knowledge-based achievements for the benefit of mankind. The Vice President also welcomed the participants to the UAE and Dubai, stressing the importance of such international gatherings for those who contribute to the information and knowledge sectors. Also in attendance were Sheikh Maktoum Bin Mohammed Bin Rashid Al Maktoum, Deputy Ruler of Dubai, and Sheikh Ahmed Bin Mohammed Bin Rashid Al Maktoum, Chairman of the Mohammed Bin Rashid Al Maktoum Foundation. In his statement, Jamal Bin Huwaireb Al Muhairi, Managing Director of the Mohammed Bin Rashid Foundation (MBRF), urged those attending the conference, the first of its kind in the Arab world, to work to connect and empower youth and provide them the opportunity to be innovative and inventive in the knowledge field. Al Muhairi affirmed that knowledge is the cornerstone of development and progress for nations, describing it as the "Revolution of the Times," adding that the conference establishes a culture of knowledge among the youth, in general, and particularly Emirati youth, through university and general education, as well as focusing on research and studies to enhance and spread knowledge among the youth and various segments of society. He also underscored the importance of translating information into Arabic, as part of the process of transferring and spreading knowledge in the Arab world, which would contribute to development in various economic, educational and social fields. Sima Sami Bahous, Assistant Secretary-General, Assistant Administrator and Director of the Regional Bureau for Arab States, conveyed a message of thanks from UN Secretary-General Ban Ki-moon to Sheikh Mohammed for his interest in spreading knowledge, not only in the UAE, but also in the Arab and Islamic nations, through encouraging people to read, search and be innovative. Tim Berners-Lee, who invented the World Wide Web, and Jimmy Wales, Wikipedia founder, lauded the progress in scientific and knowledge fields in the country. At the end of the event, Sheikh Ahmed honored Tim Berners-Lee and Jimmy Wales for their enormous efforts in the field of invention and spreading of knowledge through social networks. Earlier, Al Muhairi announced the names of winners of the $1 million Mohammed Bin Rashid Knowledge Award, which was presented to Tim Berners-Lee and Jimmy Wales in recognition of their efforts and contributions in the field of spreading knowledge throughout the world. Mohammed Bin Abdullah Al Gargawi, Minister for Cabinet Affairs; Hussain Bin Ibrahim Al Hammadi, Minister of Education; Mohammed Ibrahim Al Shaibani, Director-General of His Highness the Ruler's Court, Government of Dubai; Lt. General Dahi Khalfan Tamim, Deputy Chairman of Police and General Security in Dubai; Lt. General Dahi Khalfan Tamim, Deputy Chairman of Police and General Security in Dubai; a number of heads of government departments, educational figures and more than 1,000 experts and scientists also attended the conference.

TI, Belgacom chiefs back OTT collaboration on privacy

Operators must work with internet players to ensure that the privacy of users is adequately protected in the future, according to the CEOs of Telecom Italia and Belgacom. Speaking in a panel session, TI CEO Marco Patuano said: "What we need to understand is how to work together with over the tops (OTTs)." He said the two parties must consider how relevant quality of service, security and proximity are when looking at the privacy controls for individual products. While Facebook users aren't too concerned about privacy, due to the free and open nature of the social network, privacy is critical when it comes to online banking as quality of service, security and proximity are essential. Dominique Leroy (pictured, right), CEO of Belgacom, agreed that partnering with OTT players is a requirement, but was clear about where responsibility lies. "I think it's not our mission to make sure Netflix is secure. What we need to make sure is if people put their details in a cloud service that we provide, we have the necessary security environment," she said. Both company chiefs said that making customers aware of issues around privacy is an important area. Patuano suggested that bigger brands have more responsibility: "The stronger you brand, the higher your obligation. It's not corporate responsibility, it's business," he said. Leroy added that it is worth investing in staff awareness, as well as customers, as it ensures there is no weak link within the company that

could be exploited. Both also touched on regulation, saying that many OTT players are based outside of Europe and are therefore subject to different regulations when it comes to privacy.

Patuano said that in Europe privacy is seen as a human right, while in the US it is regarded a commercial right: "It's like playing football with feet in Europe and with hands in the US," he noted. However, Leroy said she believed that the world will move towards a more global approach to these issues: "I think in the end, it will go into a global world". Telecom regulator to go tough on operators for dues The telecom regulator will go tough on some operators, including two state-run firms, as they have failed to pay around Tk 5,000 crore in dues despite reminders. The dues comprise revenue sharing amounts and license and spectrum fees. Bangladesh Telecommunication Regulatory Commission (BTRC), the regulator, is now considering options such as cancelling their licenses or spectrums and filing cases against them, an official said. A decision will be taken soon after consulting the telecom ministry, which is the licensing authority, BTRC Secretary Sarwar Alam said. The regulator will also sit with the operators, especially the state-owned ones, he said. Of the outstanding amount, the two state-run companies -- Bangladesh Telecommunications Company Ltd (BTCL) and Teletalk -- alone owe Tk 3,200 crore. The BTCL has recently paid Tk 1,480 crore, and still has Tk 1,600 crore in dues, which is a portion of its revenue earned from international calls and was supposed to be shared with the government, another BTRC official said.

TC finalizes spectrum base price with some riders

The inter-ministerial panel, Telecom Commission, has finalized the base price for spectrum to be auctioned in February with some riders. The commission held a meeting to discuss the next round of spectrum auction, including finalization of the base price. "The commission has given approval to DoT (department of telecom)'s committee recommended reserve price with some conditions. Other matters regarding the auction were also discussed," said a source. The committee had suggested a base price of Rs 3,646 crore a MHz for the auction of 800-MHz spectrum, used for offering CDMA services, 17 per cent higher than what the Telecom Regulatory Authority of India (TRAI) recommended. The price for 900 MHz and 1,800 MHz as recommended by the DoT committee could not be ascertained. The commission's decision will now be placed before Telecom Minister Ravi Shankar Prasad for final approval and, after that, the Cabinet might be approached for certain issues, the source said. The commission on Monday discussed the revised recommendations submitted by sectoral regulator TRAI on pricing of the 800, 900 and 1,800 MHz bands. TRAI has reiterated its recommendations for the 900 and 1,800 MHz bands, while it has increased the base price by 15 per cent for 800 MHz band. The DoT had sent back TRAI's recommendations on 800, 900 and 1,800 MHz bands for reconsidering some points. The next round of spectrum auction is proposed in February and the government is estimated to garner at least Rs 9,355 crore from sale of radiowaves. Most of the spectrum which is proposed to be put for sale is being used by Airtel, Vodafone, Idea Cellular and Reliance Communications across various parts of the country. These companies will need to buy back radiowaves to continue their operations in areas where their licenses expire in 2015-16. TRAI has also released a consultation paper on pricing of 2,100 MHz band, used for offering third generation (3G) services, as the government plans to auction this band along with 800, 900

and 1,800 MHz in February. Telecom companies as well as the regulator have been of the view that the auction should take place only when adequate spectrum is made available, and the bidding should be held simultaneously for both the services, 2G and 3G.

Bill on tax on telecom towers and ad structures deferred

According to the latest market The Karnataka Legislative Assembly deferred by a day a bill to levy tax on telecom towers and advertisement structures, after the opposition demanded a comprehensive bill incorporating health and environmental hazards which such installations would cause. The government had tabled the Karnataka Municipalities and Certain Other Law (Amendment) Bill 2014, which empowers Urban Local Bodies (ULBs) seeking to levy the tax, on December 13.

Poland's P4 to Offer LTE Roaming Services Using

BICS' IPX Platform

BICS, a global wholesale carrier for voice, mobile data and capacity services, and P4, Poland's fastest growing mobile carrier operating under the "Play" brand, have announced the extension of their long-term partnership with the launch of LTE roaming on P4's network through BICS' IPX platform. This partnership includes connectivity, messaging and roaming services. The agreement will allow P4's customers to access 4G/

LTE roaming services while travelling, and incoming roamers to access voice and high-speed data services on P4's network in Poland. Last year, the BICS IPX platform pioneered the first LTE roaming sessions between European countries, and enabled the first LTE roaming sessions between Europe, Africa and Asia Pacific, as well as between America and Asia Pacific. BICS' IPX platform currently enables LTE roaming to destinations across the world. The unrivalled European reach offered to its Europe and CIS customers stretches across 57 networks in the region making BICS the European leader in LTE Roaming. Jacek Niewęgłowski, Chief Strategy Officer, P4 says: "We are excited to add superior LTE speed to international roaming services, thanks to our cooperation with BICS. The enthusiastic response of our customers to the domestic LTE experience combined with the bundle of services provided by BICS obliges us to provide the highest quality of international roaming." Nicholas Nikrouyan, Chief Commercial Officer, BICS says: "We are delighted to be the partner of choice for P4's LTE Roaming requirements. As the leading Signaling and GRX provider in the world, BICS is committed to enabling P4 in offering the highest quality of service to their customers. Through our secure IP interconnection, P4's customers can now enjoy the 4G/LTE experience while roaming on networks around the world."

DoT to announce new penalty norms within a month
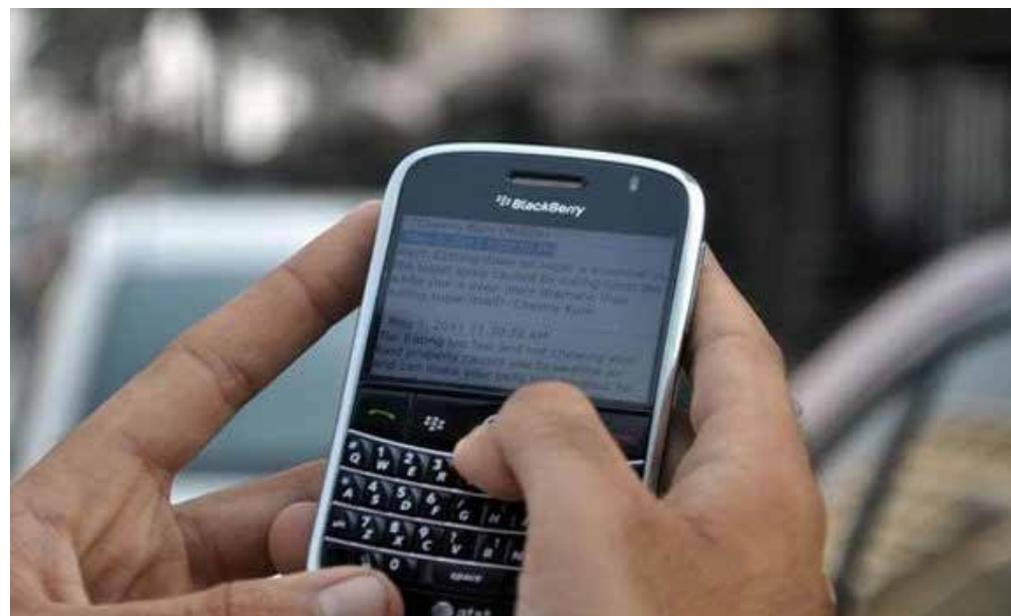
The Department of Telecom is expected to notify new penalty norms within a month that may end the practice of levying maximum penalty of Rs. 50 crore for even minor mistakes. "We are trying to get it notified soon...may be within a month," a senior DoT official said when asked about the status of the proposed norms. Inter-ministerial panel Telecom Commission in March had approved a new penalty scheme, which has five slabs ranging from Rs. 1 lakh to Rs. 50 crore, for violation of norms by mobile operators but are yet to be notified. Under the proposed scheme of penalty, fines start with a warning that invite a penalty of Rs. 1 lakh for minor violation of norms and move up, in line with severity, at Rs. 1 crore, Rs. 5 crore, Rs. 20 crores and Rs. 50 crore. In the wake of telecom scam, due to apprehensions of having to face allegations of favoring telecom operators, DoT officials had started imposing the maximum penalty of Rs. 50 crores even for minor mistakes. Early this month, the department was pulled up by telecom tribunal TDSAT which trashed Rs. 650 crores penalty on Bharti Airtel and Rs. 100 crores on Vodafone in a roaming case. Airtel claimed to have earned Rs. 8.6 lakh and Vodafone claimed to have earned Rs. 65 lakh from the roaming service on which the fines were imposed. The tribunal in the judgment said: "We are constrained to observe that the DoT must learn that imposition of penalty is not a means for generation of revenue and to meet the financial targets and we regret to say that such orders can only be passed by someone who, safe in anonymity, feels secure from any accountability." The Telecom Regulatory Authority of India in April

2012 had recommended classifying penalty in two categories - minor and major. It had suggested imposition of a maximum penalty of up to Rs. 25 lakh in case of minor violation and up to Rs. 10 crores for a major violation

Nigeria: NCC Reiterates Resolve to Protect Telecom Consumers

The Nigerian Communications Commission has reiterated its resolve to protect consumers from perceived fraudulent practices of telecommunications service providers. Executive Commissioner, Stakeholders Management, NCC, Mr. Okechukwu Itanyi stated this in Ekpoma, headquarters of Esan West Local Government of Edo State at the 14th Edition of Consumer Town Hall Meeting. Itanyi, who was represented by the Deputy Director, Consumer Affairs Bureau, Dr. Femi Atoyebi said the program was initiated by the commission for the purpose of bringing together telecoms consumers, service providers, the regulator and other stakeholders under one platform to discuss and proffer solutions to topical issues that are of great importance to the development of telecommunications industry in Nigeria. According to him, it is the tradition of the forum to feature discussions and interactive session; where consumers ask questions, while the service providers and the regulator proffer solutions to their inquiries and complaints."Today, consumers of telecoms services in Nigeria are no longer the few who were endowed much about inability to afford a phone because of very high cost or that locations of business or residence are not covered by any telephone network as apart from very remote areas, most urban and semi-urban parts of the country is covered today. "The consumers of telecom products and services have many desires expected to be met. Our consumer wants services available at all times, affordable and of good quality. "All these, the consumer wants the operator to respond at all times when attention is needed and provide explanations whenever anything goes wrong; wants to be protected at all times from being taken advantage of by service providers", Itanyi stated. The NCC commissioner also pointed that it was in recognition of the place of the consumer as king that warranted it to put in place special structures to

ensure that their needs and desires are taken care of. On the other hand, Itanyi said operators belong to a class of stakeholders in the business of telecom regulation who expects a non- partial regulator to protect their huge investment and ensure no other entity interferes with their network resources such as frequency spectrum or base station. During the interactive session, consumers expressed dismay over poor services by telecom operators especially in the area of charged drop calls, unsolicited text messages on promos that never exist and other forms of under hand practices. Responding, representatives of four telecoms service providers namely; MTN, Airtel, Globacom and Etiisalat, promised to look into all the complaints with a view to ensuring quality services.

TRAI gave recommendations for cross-media ownership, DTH guidelines, Spectrum pricing

It was a busy year for Telecom

Regulatory Authority of India in 2014 giving its recommendations on crucial issues like cross-media ownership, DTH licensing guidelines and platform services channels besides pricing of Spectrum for the proposed auction in the 900 and 1,800 megahertz bands. In its recommendations on content aggregators, TRAI disallowed bundling of channels from more than one broadcaster, causing a setback for distribution joint ventures (JVs)

like MediaPro, MSM Discovery, Zee-Turner and IndiaCast UTV. The recommendations came after TRAI was flooded with complaints about the content aggregators in doing content deals with distribution platforms particularly cable TV. The most impacted by the TRAI recommendations were MediaPro, the JV between Star DEN and Zee Turner; the JV between IndiaCast, the content monetization arm of TV18 and Disney UTV and Zee Turner. Another major recommendation by TRAI was making vertical integration a possibility by allowing broadcasters to own distribution platforms. This came with a caveat as TRAI recommended that broadcasters can own only one distribution platform either direct-to-home (DTH) or cable. This recommendation of the TRAI came as a setback for media companies like Essel Group and Sun Group which have a presence in cable as well as DTH. In order to guard a non-vertically distribution platform from discrimination, the authority has disallowed vertically integrated broadcasters to do fixed-fee deals. They can only do content deals based on charge per subscriber (CPS) basis. The vertically integrated will have to do CPS deals on non-discriminatory basis. However, the regulator has provided for a slab system which would accommodate distribution platforms of various sizes. TRAI also gave its recommendations on reserve price for the 2G Spectrum for the next round of auctions, expected in February next year. In its recommendations, issued on October 14, the Telecom regulator recommended a hike of around 10 per cent in the price of 2G spectrum in the 1800 MHz band, in 20 circles, at Rs 2,138 crore per MHz, during the next round of auctions. The regulator has also recommended that the DoT take a fresh look at the proposed implementation of the extended GSM (E-GSM)s band. TRAI has also suggested a price of Rs 3,004 crore per MHz for the 900 MHz band, in which the mobile signal covered is about twice that of the 1800 MHz band.

A SNAPSHOT OF REGULATORY ACTIVITIES IN SAMENA REGION

REGULATORY UPDATES

Afghanistan

Board Chairman: Mr. Abdul WakilShergul
[Afghanistan Telecommunication Regulatory Authority (ATRA)]

Afghan Wireless Communication Company (AWCC) has launched a 3.5G Dual Carrier HSPA+ network in Kabul, claiming to be the first operator in the country to utilize the technology. AWCC said in a press release that it had 'completely rebuilt' its core network in Kabul, installing DC-HSPA+ technology at each of its 3G sites in the city, enabling theoretical maximum downlink speeds of up to 42Mbps. AWCC also implemented IPv6 as part of its 3G rollout, making it the first company in Afghanistan with an all IPv6 system, it claims. The cellco is planning to deploy the solution in Kandahar in Q1 2015, with other cities to follow in that year. AWCC's MD Amin Ramin commented on the launch: 'We are delighted to provide these upgraded services to our subscribers in Kabul and, whether it is through improved internet surfing, online gaming or great video viewing experiences in either SD [standard definition] or HD [high definition] format, we are sure subscribers will quickly come to understand the true meaning and high

speed of 3.75G+ technology and mobile broadband. As part of our transition to 3G, we also upgraded our internet capacity into the country, and built a superior and fully redundant backhaul transmission network in and around Kabul to support the smooth and reliable flow of large volumes of data which is one of the primary requirements of mobile broadband. This will enable us to reliably deliver large volumes of high quality data at true broadband speeds, 24×7, 365 days a year.' AWCC is the last of the nation's wireless providers to launch 3G services, following behind early movers Etisalat Afghanistan (March 2012), MTN Afghanistan (October 2012) and Roshan (April 2013), whilst Salaam, the mobile division of fixed line incumbent Afghan Telecom (Aftel) began offering 3G in February 2014.
(December 15, 2014) telegeography.com

Afghan mobile operator Roshan has selected World Telecoms Labs (WTL) to provide its voice-over-internet protocol (VoIP) switches to improve call quality and reduce the cost of voice traffic between its international gateway in Kabul and its VoIP point of presence (PoP) in London. In a press release from the vendor, WTL explained that its VoIP switches have been specifically designed to replace the

'huge, expensive [and] maintenance-heavy switches that have traditionally been used to transfer VoIP traffic onto other networks.' The new switches utilize Network Optimization Protocol (NOP) compression techniques and will provide Roshan with increased capacity and greater flexibility and reliability. Further, WTL claims that the solution is fully redundant.
(December 10, 2014) telegeography.com

Algeria

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

The Algerian government is reportedly reluctant to privatize domestic incumbent Algerie Telecom (AT), with Zohra Derdouri, Algeria's Minister of Post and Information Technology and Communication, cited by domestic news source Al Moudjahid as saying: 'The opening of the capital of Algerie Telecom is not the best solution.' The minister added: 'One country, whatever it is, must have an operator of its own, for, inter alia, to preserve its security and sovereignty ... I have not received any guidance in this regard. But in the case [where there is open request for AT capital], I will defend my position until I am proven wrong.' Plans for privatization of state-owned AT have been mooted for several years but have come to nothing. In February 2009 AT chairman Foamed Benhamadi claimed that opening up the company to outside investment was no longer necessary and that plans were under way to pump EUR100 million (USD137.5 million) into the development of fiber-optic networks over the next five years. However, in October 2013 local media reports revealed that the Conseil des participations de l'Etat (CPE), the agency managing the Algerian government's stake in state-owned business entities, was planning a public sale of the shares of ten nationalized companies, including AT. Further, in April 2014 it was suggested that the government was planning to put 20% of Mobilis' share capital up for sale on the country's bourse. Previously, both Orange Group of France and UK-based Vodafone have expressed interest in entering the Algerian market as part of collaboration with domestic operators. (December 16, 2014) telegeography.com

Algerian cellco Ooredoo (Nedjma) and French-US vendor Alcatel-Lucent have built a high-capacity optical transport network (OTN) in order to deliver increased speed and capacity to Algeria's main cities of Algiers, Constantine and Oran and a number of smaller towns. The agile optical network, which the vendor claims is 'Africa's first Alcatel-Lucent 400G backbone', will be fully operational before the end of 2014. The network will be based on Alcatel-Lucent's Dense Wave Division Multiplexing (DWDM) optical transport technology using the 1830 Photonic Service Switch platform to address demand for high-bandwidth mobile data services such as high-definition video streaming, next-generation mobile broadband applications and cloud services. Alcatel-Lucent is also supplying Ooredoo Algeria with its soft decision forward error correction (SD-FEC)-based 100G coherent optical technology, which was developed using the company's 400G Photonic Service Engine (PSE). Joseph Ged, CEO of Ooredoo Algeria commented: 'Ooredoo Algeria has the fastest growing 3G network in the country and in North Africa. Our 400G network will be instrumental to support the best

quality of experience (QoE) for our customers as well as to increase our market share in Algeria. Through this game-changing achievement we intend to consolidate our technology leadership within the Maghreb region and also in Algeria in order to offer to our clients best-in-class network in terms of capacity and speed.'
(December 2, 2014) telegeography.com

Bahrain

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

Viva Bahrain is betting on rising data revenue to offset falling per-user call income, its chief executive told Reuters. Wholly owned by Saudi Telecom Co (STC), Viva launched operations in March 2010. It competes with former monopoly Bahrain Telecommunications Co (Batelco) and Zain Bahrain, a unit of Kuwait's Zain, as well as about 10 Internet service providers. "Worldwide, operators are seeing a decline in ARPU (average revenue per user)," Ulaiyan al-Wetaid, chief executive of Viva Bahrain, told Reuters via email. "Driven to some extent by falling voice revenues as well as competitors actions, it is a challenge all operators face. In Bahrain, the decline in ARPU is offset by the increase in revenue from data." Across Bahrain's telecoms sector, voice calls accounted for 64 per cent of the operators' revenues in 2013, data was 18 per cent, text messaging four per cent and subscription payments 14 per cent, according to the Telecommunications Regulatory Authority (TRA). Operators' per-user revenue fell by about a tenth last year, the TRA says. As a privately held company, Viva does not publish its accounts, but Wetaid said the company was profitable and its revenue rose 15 per cent in the first half of 2014 compared to the year-earlier period. Full-year revenue in 2013 rose 21 per cent, he said, declining to provide further details. "Data now accounts for a quarter of our revenues and our estimate is that this will only increase over the next few years," said Wetaid. Unusually, 90 per cent of Bahrain's broadband subscriptions use mobile, with the remainder using fixed networks and Viva has invested heavily in building a fourth-generation (4G) network. As of the end of 2013, Bahrain had 2.21 million mobile subscriptions, according to the TRA. Batelco had 868,000 mobile subscribers at that time, its annual report showed, and Zain Bahrain had 772,000, according to parent firm Zain's filings. That would imply Viva Bahrain had 570,000 subscribers, making it the No.3 operator. (December 29, 2014) gulfbusiness.com

Telecommunications Regulatory Authority (TRA) has released a draft version of a strategic market review (SMR) of the country's telecoms market started earlier this year, designed to improve the industry's regulatory framework. The SMR's remit is to review how competition has developed in the local telecoms market and to amend the regulatory framework as necessary to reflect that. 'The SMR draft report sets out TRA's proposed directions on what should be done to promote an even more efficient and dynamic telecoms market,' said TRA's general director Mohammed Bubashait. 'Through the outcomes of the SMR, Bahrain will be taking significant steps towards ensuring that market regulation is in sync with the recent market and technological developments. The TRA continues to be a highly progressive market

regulator, taking pioneering steps to foster efficient market outcomes. We are now keen to consult the industry and other stakeholders to hear their views on TRA's proposed way forward,' he added. The public consultation period will run until the end of January 2015, with the final report on the SMR due for publication in Q2 2015. (December 18, 2014) telegeography.com

Bangladesh

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

The telecom regulator has decided to allow new companies to build and manage towers of mobile operators in a bid to contain spread of such infrastructure. As operators will share each other's infrastructure under the new arrangement, their expenditure as well as power consumption will come down. The regulator will provide the tower companies with licenses and a licensing guideline will be prepared, said Sarwar Alam, secretary and spokesperson of Bangladesh Telecommunication Regulatory Commission. The licensing will begin once the telecom ministry gives a go-ahead to the guideline, he said, adding: "The existing infrastructure guideline will also be amended." As mobile operators now set up towers separately, the number of such structures is high and will go up further in future, resulting in a rise in radio-frequency radiation emitted by antennas, according to a BTRC report. The bigger the number of the towers, the higher is electricity and land consumption that leads to increased investment and operational expenditure, it said. Six mobile operators have 26,446 towers -- Grameenphone has 8,845, Banglalink 5,120, Robi 6,592, Airtel 3,734, Teletalk 1,275 and Citycell 880, according to the report. However, Banglalink and Airtel said the number of their towers is higher than the BTRC figures. Dhaka alone has 9,552 towers, while the rest are spread across the country. The BTRC said developed countries encourage their operators to share common towers rather than setting up them separately. Currently Bangladeshi operators, under infrastructure-sharing agreements between them, can share their passive infrastructure that includes non-telecom equipment such as towers, buildings, batteries, electricity, and cooling systems. But operators in developed countries can share their base stations and switches with each other. Earlier in February, mobile operator Robi had sought an approval to transfer 80 percent of its network infrastructure assets to Edotco Group, a fully owned subsidiary of Malaysian Axiata Group that manages telecom towers. But the telecom regulator had approved transferring 49 percent of Robi's network infrastructure shares to Edotco, both of which are subsidiaries of Axiata. Airtel Bangladesh has also formed a tower infrastructure company. A Reuters report last month said Bharti Airtel Ltd would sell more than 4,800 mobile phone masts in Nigeria to American Tower Corp for $1.05 billion. (December 22, 2014) thedailystar.net

The mobile market leader GrameenPhone has served notice on the country's smallest cellco CityCell demanding payment of an outstanding amount of BDT101.6 million (US$1.31 million) in two weeks, including interconnection charges outstanding since October 2011 plus 15% interest. Taslim Ahmed, head of corporate affairs of CityCell, said the company had received the notice and was 'in the process of discussion

with GrameenPhone to settle the issue amicably.' However, CityCell also owes over BDT2.5 billion to the Bangladesh Telecommunication Regulatory Commission (BTRC) in overdue 2G license renewal fees dating back to 2011, and the regulator has served 'final' notice on CityCell – the country's only CDMA-based operator – with a call to clear the dues. Another Bangladeshi paper, the Financial Express, writes that CityCell may lose its operating license as the regulator is set to take 'tough action' over the non-payment. 'We are considering taking action including cancellation of [CityCell's] spectrum allocation, in case of its failure to comply with the final notice that will expire on 18 December 2014,' an anonymous BTRC official was quoted as saying, who underlined that the cancellation of spectrum would lead to the termination of the operating license. Leading up to the 'final' 15-day notice issued in early December, the regulator has sent notices and reminders to CityCell – part-owned by Singapore's SingTel – 'at least five times', according to the official. Taslim Ahmed told the Express that the company is working with the regulator to settle the issue, claiming: 'We are sincere about paying the dues. However, it will take time,' and adding that the financially-struggling company is 'hopeful' of settling the issue within the stipulated time.
(December 15, 2014) The Daily Star

The Bangladesh Telecommunication Regulatory Commission (BTRC) plans to auction unused spectrum in the 1800MHz and 2100MHz bands to existing mobile operators by March next year to help improve voice and data services, as discussed in a meeting between the watchdog and the cellcos this week. A BTRC official confirmed that the frequencies up for grabs comprise 2×10.6MHz in the 1800MHz band and 2×15MHz in the 2100MHz range. Wireless market leader GrameenPhone and state-owned Teletalk operate 3G W-CDMA/HSPA+ services over 2×10MHz of 2100MHz bandwidth each, while rivals Robi, Banglalink and Airtel all operate 3G with just 2×5MHz of 2100MHz spectrum each under 3G/4G licenses auctioned in September 2013. The private cellcos' existing 1800MHz GSM licenses do not permit 4G services. The regulator had earlier planned to release the 700MHz band next year for 4G LTE technology, but has backtracked on this proposal as it considers the Bangladeshi market is not yet ready for 4G; operators have lobbied for permission to launch 1800MHz LTE services, but this is not yet forthcoming.
(December 3, 2014) The Daily Star

The telecom regulator plans to allocate unused spectrum in the 1,800 and 2,100 megahertz bands to existing mobile operators by March next year, which will help them deliver better voice and data services. Bangladesh has 10.6 MHz unused or unsold bandwidth in the first band and 15 MHz bandwidth in the second, a BTRC official said. The country crossed the 11 crore mobile subscriber mark, but the quality of services has dropped due to inadequate spectrum. The regulator had earlier planned to release the 700 MHz band next year for 4G technology, but later backtracked as the environment was not yet ready for 4G. Bangladesh Telecommunication Regulatory Commission and top officials of the mobile operators discussed the issue in a meeting. The regulator will send guidelines to the telecom ministry next week for feedback, especially the process of selling the spectrum and prices. The operators have long been requesting the government for the 1,800

MHz band for 4G (long term evolution), which provides far greater data speed than 3G and is globally used for 2G, 3G and 4G technologies to provide both voice and data services, but the regulator will approve that only after selling the 700 MHz spectrum. Bangladeshi mobile operators are allowed to use the allocated 1,800 MHz spectrum only for 2G services, while the 2,100 MHz band for 3G and 4G. (December 1, 2014) thedailystar.net

Egypt

Executive President: Eng. Hesham El Alaily
[National Telecommunication Regulatory Authority (NTRA)]

A unified price plan was agreed upon between all four mobile operator companies, Telecom Egypt, Vodafone, Mobinil, and Etisalat, Executive President of the National Telecommunications Regulatory Authority (NTRA), Hesham El-Alaily, stated. In a statement to Daily News Egypt, El-Alaily said the agreement included unifying the prices, through which Telecom Egypt obtains services from the three mobile operator companies. Each is according to the area agreed upon, provided that Telecom Egypt re-sells it to the people as a default operator. Through activating the unified license, Telecom Egypt offers mobile services as a default operator. It will buy wholesale minutes from all three mobile operators and then re-sell them to the people in return for paying the government's license of EGP 2.5bn. Mobile operator companies have the right to be given a license for fixed phone services in return for paying EGP 100m. According to El-Alaily, no company was forced to sign this agreement, denying the rumor regarding Telecom Egypt's request to the NTRA to permit all three mobile operators to offer prices to all geographical locations so that Telecom Egypt can choose the best of them, instead of choosing the best operator for each location. Vodafone will offer services to Telecom Egypt in Alexandria and the Delta region, Mobinil will serve Cairo, and Etisalat will serve the rest of the governorates. The cabinet previously approved the initial plan of the unified license and discussed the plan once again with the Ministry of Communications and Information Technology in order to implement it. Meanwhile, NTRA is holding intense meetings with the four mobile operator companies in order to resolve all problematic areas prior to implementing the "unified license".
(December 29, 2014) menafn.com

Iran

Minister of Communication & Information Technology:
Mr. Mahmoud Vaezi
[Communication regulatory Commission (CRC)]

MTN Irancell has expanded its Long Term Evolution (LTE) network to cover 50% of the population, following the introduction of 4G connectivity in eight additional cities, namely Uromiyeh, Babol, Tabriz, Tehran, Qom, Karaj, Mashhad and Hamedan. CEO Alireza Ghalambor Dezfouli disclosed that the company will offer 4G services in all provincial centers across the country by the end of the year. Under the terms and conditions of its license agreement, the operator is required to provide minimum geographical coverage of 10% and population coverage

of 5% by year-end. With regards to MTN's 3G network, the executive revealed that the company currently has a 3G presence in 75 cities across all 31 provinces; going forward, the cellco is planning to increase the number of locations covered by 170% by March 2015. MTN Irancell launched the country's first 4G LTE network in the city of Mashhad in November 2014. At launch, 4G services were made available via dongles, with very few LTE-enabled handsets available in Iran. Irancell's CEO said that 4G users can expect real-world download speeds ranging from 10Mbps to 40Mbps upload speeds from 1Mbps to 15Mbps, and latency from 50 to 150 milliseconds.
(December 5, 2014) telegeography.com

Jordan

Chairman of the Board of Commissioners/ CEO:
Mr. Mohammad Al Taani
[Telecommunication Regulatory Commission (TRC)]

Mobile penetration reached 147% in Jordan at the end of September, compared to 146% three months earlier and 143% at end-March 2014, according to the most recent statistics published by sector regulator the Telecommunications Regulatory Commission (TRC). The number of mobile users expanded to 11.00 million from 10.69 million in the previous quarter, with pre-paid users increasing from 9.90 million to 10.17 million over that period. Mobile broadband subscriptions meanwhile reached 1.3 million from 1.21 million and 1.13 million in the preceding two quarters. Elsewhere, the TRC notes that there were some 5.6 million Jordanians, or 74% of the population, using internet services in Q3 compared to 5.4 million (73%) in Q2 2014. Broadband subscriptions totaled 344,738 at end-September, including 211,732 ADSL (207,713 in Q2), 125,481 WiMAX (125,909) and 6,000 cable (6,069). (December 16, 2014) telegeography.com

Lebanon

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

Telecommunications Minister Boutros Harb vowed to exert more efforts to improve the telecom sector by implementing law 431 issued in 2002, which calls for the privatization of the sector and the creation of Liban Telecom. "The only way to improve the telecom performance in Lebanon is by implementing law 431, which will regulate the sector and free it from administrative routines," said Harb in his speech during the DGTL#U conference. Organized by Al-Iktissad-Wal-Aamal group, DGTL#U aims at discussing the future of electronic payments in the digital economy era, in addition to highlighting the importance of the adoption of digital technologies by the banking sector. Harb said the ministry was in the final stage of preparing the terms and conditions for the implementation of law 431 and the creation of Liban Telecom, which would enhance the performance of the telecom sector. Law 431 stipulates the establishment of Liban Telecom, through merging the operations of Ogero (a government-owned contractor) and two directorates of the Telecommunications Ministry. According to Law 431, Liban Telecom would be an integrated telecoms operator providing services that include fixed and mobile telephony, local and

international communication, voice and data access, pay phones, emergency call services, and dial-up and printed directory information services. Harb said that previous telecom ministers had deliberately prevented the implementation of this law because it limited their power and gave more authority to the Telecommunications Regulatory Authority over the telecoms sector. The ministry is keen on introducing reforms that will allow the telecom sector to keep up with worldwide changes in the field. "A few months ago, the ministry successfully launched a service that allows customers to pay their fixed phone bills electronically and though credit cards in cooperation with one of the Lebanese banks," he said. "The success of this step reflects the need within the Lebanese market for such services." Wassim Mansour, general manager of touch Lebanon, said that touch's parent company Zain had signed an agreement with eServGlobal, a company specializing in mobile money solutions, to offer customers a complete mobile money platform, providing services such as electronic top-up, mobile wallets, mobile banking, online payments, salary disbursements, peer-to-peer money transfer, airtime top-up and bill payment. "Zain is aware that the business model is changing and that it is of the utmost importance to be innovative in offering new services to clients," he said. Meanwhile, Maya Younes, head of marketing group at BLC Bank, told The Daily Star on the sidelines of the conference that mobile payments would pick up in the years to come. However, she added, new regulations should be passed and old regulations must be improved in order to allow these new services to succeed in the market. "Banks' prepaid cards, for instance, can be given to people who are aged 18 years or under, while one of the conditions for using mobile payments is that they cannot be accessed by those who are under 18 years old," she said. BLC has recently created HEY, a new application that can be downloaded on the smartphone and that allows customers to pay anytime and anywhere in seconds. Younes said that incentives must be given to consumers to encourage them to use these new services. "These new services should be able to solve a problem for them to be attractive to clients," she said. "Only then will they be used by all customers." (December 8, 2014) zawya.com

Morocco

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

Telecoms regulator ANRT, has published its decision ANRT/DG/No.14, which establishes the technical requirements and tariffs for passive access to Maroc Telecom's (IAM's) fixed local loop. The new document comprises eight articles and lifts all restrictions on accessing the physical components of the wired local loop, which the incumbent operator has established in order to limit the use of its equipment by competitors. The ANRT gave the former monopoly operator a deadline of December 31 to provide an updated wholesale offer 'integrating all requests for amendments and improvements requested by the ANRT' to rival operators Meditel and Inwi. In June 2014 the ANRT published the rules governing local loop unbundling (LLU) in Morocco. Under the new regulations, Maroc Telecom is required to provide colocation for third-party operators'

equipment in its existing cabinets, install multi-operator cabinets for part of their future nodes and establish an active wholesale offer for third-party operators under a virtual unbundled local access (VULA) model. Although the incumbent telco was initially required to provide a technical and tariff wholesale offer for passive access to its fixed local loop by August 1, it was accused of failing to publish wholesale offers that cover shared cabinet access, full and partial unbundling and bitstream access on several occasions. (December 18, 2014) telegeography.com

Nepal

Acting Chairman: Mr. AnandaRaj Khanal
[Nepal Telecommunication Authority (NTR)]

Out of every 100 inhabitants of the country, 15 are yet to own a mobile phone. Nepal Telecommunications Authority (NTA)'s Management Information System (MIS) states that the country's mobile service penetration rate touched 85.58 per cent by the first quarter (mid-July to mid-October) of the current fiscal year. This means of the total population 26.49 million (according to National Census 2011) in the country, 22.67 million people have subscribed for mobile phone service, the major voice telephony service. NTA officials said that the penetration rate is set based on the information provided by the telecom companies regarding their user base. With heavy contribution of mobile segment, total penetration rate of voice service has reached 95.58 per cent in the review period. "As majority of customers have already subscribed to the service, telecom companies' new users intake has also slowed down," the official said. Telecom companies have attracted 622,422 customers to buy their mobile service in the first quarter of this fiscal. In the same period of the last fiscal year 2013-14, a total of 658,521 new subscribers were added by the operators. As per the MIS report, Ncell boasts of 12.06 million mobile subscribers, while the state-owned Nepal Telecom (NT) has 10.06 million subscribers for its GSM and CDMA mobile services. Even as there is rise in penetration rate in the mobile service segment, there is decline in customers using landline phones. As a result, the penetration rate of fixed phone came down to 3.14 per cent from 3.20 per cent in the same period of last fiscal year. According to the MIS, penetration of fixed lines went down because of decline in user base of United Telecom Limited (UTL), STM Telecom Sanchar and Nepal Satellite Telecom. NTA records show that there are 834,137 landline users. UTL's subscribers in fixed phone category went down by over 25,000 users, while STM Telecom that has been providing the service in VSAT-based technology witnessed fall by 43 per cent in its user base to 2,940 users over the past one year. Meanwhile, the data penetration rate has reached 35.28 per cent, with total subscriber base standing at 9.34 million. Of the total internet users, 8.89 million customers have subscribed to mobile data services, including GPRS, EDGE and 3G. Remaining are the users of dial-up, optical fiber, cable modem, WiMAX and EVDO. In data service, NT has covered the major market share of 54 per cent, followed by Ncell at 44 per cent. UTL and internet service providers share the remaining two per cent market share with combined 165,474 users. (December 23, 2014) thehimalayantimes.com

Oman

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

Ooredoo Oman (formerly known as Nawras) has introduced a new service, IP Virtual Private Network (IP VPN), which offers MPLS-based multi-point connectivity within the Sultanate. The firm says that businesses will now be able to exchange business communication and application data between different users and nodes across multiple locations over its secured, reliable and redundant next generation network. Ooredoo's infrastructure covers all strategic business locations within Oman and extends internationally through its global MPLS network. Said Al Shanfari, director of Business Marketing commented: 'Ooredoo's MPLS connectivity allows businesses to stay connected with a secure and reliable network. Plus, the service is fully managed 24 hours a day by Ooredoo to give peace of mind and allow customers to focus on their business while leaving the technology to us.'

(December 3, 2014) telegeography.com

Pakistan

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

The five major telcos in Pakistan: Mobilink, Telenor, Zong, Warid and Ufone have collectively deactivated more than 14 million SIMs till December 2014. The effort has gathered momentum after the attacks in Peshawar. As we covered before, telcos came under fire for the prevalence of unauthorized SIMs and the threat they posed. 5 SIMs were used in the terrorist attack in Peshawar and a lot of blame was thrown towards the telcos for the incident. To stop anything like that from happening ever again, the cellular operators and governments officials have been in regular meetings, whose purpose is to draft a plan which would include a provision to deactivate a SIM after a set inactive period. Right now, the telcos are deactivating any SIM that has been dormant for more than 90 days. According to a PTA official previously, the Interior Ministry of Pakistan asked the telecom operators to re-verify their respective user-bases in 28 days, which caused outrage, with one source describing the request as "not feasible". (December 30, 2014) propakistani.pk

Mobile phone companies in Pakistan have continued to show growth for their 3G subscriptions, which surged to 4.962 million at the end of November 2014. Meaning that 5 million benchmark would have been achieved by the sector as of today. It is said to be an impressive number with-in first six months of the launch of 3G services in the country. With Zong topping the chart, 3G users increased for all four operators of cellular phone industry. According to details made available by Pakistan Telecommunication Authority (PTA), a total of 1.20 million users were added to 3G network in November 2014, whereas the numbers for 4G users stood below 1,500 subscriptions because of limited coverage being offered by Zong, the only 4G till previous month. Zong managed to grab its top position in 3G market with subscribers' number reaching 1.688 million at the end of November 2014. The outstanding growth of Zong 3G subscribers depicted its aggressive sales strategy though the launch

of its services were quite delayed compared with different market players. Mobilink having biggest subscriber base in 2.5G users is standing at second position with 1.443 million users. Telenor had 1.182 million 3G users at the end of reported period. Ufone stood last with its 646,949 3G customers. Mobilink claims to provide 3G services in 24 cities whereas Telenor claims have stretched its 3G footprint in in 55 cities so far. The growth of subscribers reflects the penetration of operators in different cities however the experience and utility of services could not be determined by these numbers. Zong that launched 4G service in the end of September this year witnessed slower addition in 4G users, which stood at just 1,452 at the end of November 2014. It is obvious that 4G is the latest technology in the country but the adaptation is limited on the network of Zong. Warid Telecom launched its 4G LTE service a few days back and it sets to compete with Zong in 4G market with slightly lesser competition as compared with 3G market. With extremely low number for 4G subscribers on Zong, Warid has an opportunity to speed up its network up-gradation to become Number One operator in 4G sector in Pakistan. On the other hand, Zong is also working on 4G network deployment to grab the maximum subscribers in the specific high-end market. (December29, 2014) propakistani.pk

Qatar

Executive Director: Mr. Graeme Gordon
[Communications Regulatory Authority (CRA)]

Ooredoo Qatar reached the milestone of 200,000 customers connected to its fiber broadband network on 13 December, it announced in a press release yesterday, having launched the high speed triple-play connectivity service nearly three years ago. Ooredoo added that around 9,000 homes a month are currently being connected to Ooredoo Fiber, supporting 100Mbps broadband speeds, voice telephony and IPTV ('Mozaic TV'), while the lion's share of its existing fixed broadband customers have now been transferred from ADSL connections. Sheikh Saud bin Nasser al-Thani, CEO, Ooredoo Qatar, said: 'As our community prepares to celebrate Qatar National Day together, I am proud that Ooredoo has lived up to its promise to connect people to the fastest-available fiber network.' Ooredoo's fiber investment will continue throughout 2015, while the full-service operator is also planning a significant infrastructure investment and capacity-building program in the run-up to the FIFA World Cup 2022 hosted by Qatar. (December 17, 2014) telegeography.com

ictQATAR has announced the beta version of Qatar's ICT Observatory, a central platform of ICT-related data and statistics on Qatar accessible to businesses, entrepreneurs, researchers, decision- and policy-makers, government entities and the public. The ICT Observatory is part of a government-wide effort to "open up" more data to the public to further increase government transparency and accountability. The observatory is a trusted source of information on Qatar's ICT landscape, supports important policy-making and evaluation activities, reduces research and data investments among enterprises and other organizations, and promotes discussion on ICT-related topics. Launched following the release of Qatar's Open Data Policy, the ICT Observatory allows users to view and analyze data from a variety

of sources, including specialized surveys on ICT usage and penetration of households, individuals, business and government dating back to 2008; licensed telecom operators; international reports; and aggregated data from other government entities in Qatar, informing users about the continuous developments taking place in Qatar's ICT landscape. "These initiatives will help spur innovation and support researchers in Qatar and around the globe," said HE the Minister of Information and Communications Technology Dr Hessa al-Jaber. "These efforts are critical to advancing a knowledge-based economy in Qatar." Qatar's ICT Observatory has a number of functionalities that allow for useful and quick access to ICT data across various topics, including viewing indicators; generating, browsing and downloading analytical reports and data; creating and reviewing charts and tables; refining and customizing queries; and creating customized reports for further analysis. The observatory uses data visualization tools to help users explore and analyze the data. In-memory technology enables quick dissection of the data and creation of interactive reports through web and mobile devices. The advanced analytics and data visualization capabilities will help users better understand Qatar's ICT landscape. The final portal will be released in March 2015 and the Arabic version by the end of 2015. The content of the portal will be licensed under a Creative Commons attribution to ensure fair and optimal usage. QNREN, an independent high-speed network, will allow any educational institution (universities, colleges, schools) and research institutions within Qatar to exchange data and services. It also provides international connectivity with universities and research institutions worldwide. QNREN was initiated by Qatar University (QU) and is sponsored by ictQATAR. QNREN has a dedicated dark fiber backbone, provided by the Qatar National Broadband Network (Qnbn), and is capable of 100Gbps with possibility of upgrade. Qnbn will provide also the fiber connectivity to all existing and future members of the network and QU will host the QNREN operation. The first entities to connect to QNREN are QU and College of the North Atlantic. The beta version of the Observatory is available at www.ictobservatory.qa
(December 8, 2014) gulf-times.com

Ooredoo Qatar has launched the country's first commercial LTE-Advanced (LTE-A) service, boosting its network's peak mobile downlink data speeds to 225Mbps from its previous limit of 150Mbps, the operator announced in a press release. The '4G+' services are initially available in parts of Doha – Corniche, West Bay lagoon, Katara, Souq Waqif, Al Rayyan, Shahaniya and Sealine – from December 1 at no added cost for users with devices supporting LTE-A on either 800MHz or 2600MHz frequency bands. Ooredoo's sole LTE radio and core network technology provider Nokia Networks issued its own press release highlighting the project's technical advancements, noting that carrier aggregation (CA), a key feature of LTE-A, enables operators to create larger, virtual carrier bandwidths for services by combining separate spectrum bands, thus boosting network capacity and speed as well as performance. For the Qatari launch, Nokia provided its 'Flexi Multiradio 10' base stations, Evolved Packet Core technology and NetAct network management system; it combined the 800MHz and 2600MHz spectrum bands by upgrading the currently installed equipment with its CA software; while the vendor also provided network planning

services. Waleed Al-Sayed, COO, Ooredoo Qatar, said: 'The demand for higher network capacity and speed in malls, stadiums and at national events is growing at a rapid pace. With Nokia Networks' help, we are now able to address this demand, offering the fastest network with latest technology for our customers.'
(December 3, 2014) telegeography.com

Saudi Arabia

Governor: Eng. Abdullah A. Al Darrab
[Communication & Information Technology Commission (CITC)]

Saudi Telecom Company (STC) has announced that it expects to book a SAR621 million (US$166 million) gain in Q4 2014 due to transfer of some of its land holdings to the government. Previously, in June, the company said that the state had seized a 1.05 million square-meter plot in the Al Faisaliah district of Riyadh, with a book value of SAR105.3 million. Earlier this week, the operator confirmed that the government had begun transferring ownership of the land in exchange for compensation of SAR726.3 million. However, the telco added that it did not consider the compensation amount to be fair, and disclosed that it would appeal the decision. Some estimates suggest that the land appropriated from STC could be worth between SAR.36 billion and SAR2.83 billion. (December 24, 2014) reuters.com

Lebara this week became the second service provider to launch MVNO services in Saudi Arabia. The London-based company, which targets migrants with SIM-only price plans and low-cost international calling packages, has begun offering prepaid services via host network Mobily as part of a consortium that includes an unspecified number of Saudi investors. "Offering high quality and low cost mobile products to migrant communities is the driving force of our business. With today's launch we'll be able to offer this service to the millions of expats living and working in Saudi Arabia, helping them stay connected to their friends and family at home," said Lebara CEO Yoganathan Ratheesan, in a statement on Monday. Lebara puts the number of expatriates living in Saudi Arabia at approximately 10 million. It has become the second company to launch MVNO services in Saudi Arabia after Virgin Mobile, which went live on STC's network in late September. Like Virgin, it was awarded a full MVNO license by the telecom regulator, the Communications and Information Technology Commission (CITC) in March and originally aimed to go live in the second quarter. A third license was issued to Dubai-based phone retailer Axiom. However, its license was withdrawn and retendered before it could launch on host network Zain because it failed to submit unspecified documents to the CITC.
(December 16, 2014) totaltele.com

Saudi Arabian telcos Etihad Etisalat (Mobily) and Zain Saudi Arabia, who have been embroiled in a payment dispute since last week, have proceeded to the next stage of the arbitration process. According to a press release published on the Saudi Stock Exchange (Tadawul) website, the two operators have selected their respective arbitrators, which in turn have appointed an umpire. At the first hearing, scheduled to take place on December 13, 2014, the arbitration panel will determine the procedures and duration of the arbitration process;

further, Mobily will present its demands and supporting documentation, while Zain Saudi will submit its jurisdictional and substantive defenses. Mobily requested a referral to arbitration with regards to receivables due under an agreement signed with rival Zain Saudi on 6 May 2008. Mobily disclosed that by 30 November 2013, Zain owed it SAR2.2 billion (USD586.3 million) for the provision of national roaming, site sharing, transmission links and international traffic; the company said that it could not reach an amicable settlement with its rival for the amount due, so its management decided to revert back to arbitration. For its part, Zain Saudi has deemed Mobily's claims as 'unfounded', with Hassan Kabbani, Zain Saudi's chief executive, cited as saying: 'We have been asking Mobily to provide documentation that could justify this claim and so far they have failed to do so – these claims are not valid … It is something very serious – there is no way this amount is feasible or reasonable.' (December 10, 2014) telegeography.com

Etihad Etisalat (Mobily) has requested a referral to arbitration with regards to receivables due under a Roaming Service Agreement signed with rival Zain Saudi on May 6, 2008. Mobily disclosed that by November 30, 2013, Zain owed it SAR2.2 billion (US$586.15 million) for the provision of national roaming, site sharing, transmission links and international traffic. The company said that it could not reach an amicable settlement with its rival for the amount due, so its management decided to revert back to arbitration, in accordance with the Arbitration Rules and Regulations outlined in the Service Agreement. The cellco also said that it has already provided a total of SAR1.1 billion against total receivables due from Zain as of October 30, 2014. Mobily said the aforementioned agreement is still valid, although it highlighted that it is' receiving irregular payments for its services'. According to Mobily, both parties have selected their respective arbitrators and the appointment of an umpire is currently underway.

(December 2, 2014) telegeography.com

Sri Lanka

Director General: Mr. Anusha Palpita
[Telecommunication Regulatory Commission (TRC)]

Sri Lanka's surging IT and BPO exports would hit the critical dollar one billion mark as early as next year, surpassing previous expectations. The London Stock Exchange and HSBC have praised the Lankan IT sector 'with joy', as revealed in Jaffna last Friday. "We earned $719m from ICT exports, and our projection for 2014 is $820m. At this rate, we expect to hit the one billion dollar mark very soon-as early as 2015. We have seen 123% growth in IT sector over the last five years. London Stock Exchange and HSBC also praised the Lankan IT sector with joy," said Saman Maldeni (Director, Export Services of SLEDB) in Jaffna addressing the IT and BPM Export Forum and Entrepreneurship workshop held in Jaffna at Jaffna's Tilko City Hotel. The first such Forum to be held in Northern Province brought 30 ICT operators and 30 would be young entrepreneurs and start-ups and seven leading Lankan IT BPM CEOs. Held on the theme of "Accelerating IT Exports and Fostering Entrepreneurship", the one day, one-of-a-kind session consisted of presentations from seven Lankan IT firms – Virtusa, Stax Inc, WSO2, Calcey,

CodeGen, Hayleys BPO, 99X Technology well as top two public sector agencies ICTA and EDB. Co-organizers of the Forum were EDB and ICTA. "Sri Lanka's IT and BPM sector vision 2022 is $5b revenue, 200,000 direct jobs and 1000 start-ups. Northern region has been identified as one of the major regions that can harness its strengths and skills to make this dream a reality," said EDB Director Maldeni. SLASSCOM Vice Chairman Mano Sekaram said, "Just five years ago, such an event was merely a pipe dream. Today however peace and prosperity is finally the reality we are living in and events like this are not only possibility but happening as we speak. We kicked off the Jaffna IT week two days ago at Vembadi School ,where we shared with the schoolchildren who are the future leaders of our country of the career prospects in IT and BPM –this was a successful 2 days in which we had over 2000 children and youth taking part. Sri Lanka's IT and BPM sector has taken less than 15 years to become the country's fifth largest exporter. In 2013, export revenue grew to an estimated $ 719mn, employing 80000 with 220 firms engaged in it. We have an ambitious vision-our 2022 vision of the industry is to be a $5 billion industry creating 200,000 jobs. Part of our strategy is to build regional ICT capacity creating 2 tier cities and fostering entrepreneurship to ignite start-ups. Today, the Western Province contributes over 95% of IT and BPM exports. The creation of 'Second Tier Cities' –Kandy, Galle and Jaffna-will IT empower the regions and would see a paradigm shift from being Colombo-centric to regional-centric IT development. Furthermore, it has been identified that the proliferation of ICT in provincial regions is the fastest way of developing marginalized areas. Let me thank all the my industry friends , industry leaders and CEO, EDB officials, ICTA colleagues and our sponsors for working tirelessly to put together this even and coming all the way to Jaffna." Reshan Devapura (CEO-ICT Agency Sri Lanka), said: "Previously we expected to break $ 1billion mark in IT revenue by 2016 or later but now, with latest revenue projections coming in, we are expecting to hit $ one billion revenue by 2015 with 100,000 IT sector employment in 2015." (December 8, 2014) dailynews.lk

Etisalat's Sri Lankan unit is expanding its 2G and 3G network coverage via the deployment of 200 base stations in 100 days, across eight districts in the country. The project is planned for completion by the end of January 2015 and is part of the cellco's coverage and capacity expansion program. Middle Eastern-backed Etisalat is the third placed mobile operator in Sri Lanka with 20.3% of the country's subscribers at June 30, 2014, while at the same date its 3G coverage extended to approximately 70% of the island's population.

(December 3, 2014) telegeography.com

Tunisia

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

The state-backed fixed line incumbent Tunisie Telecom (TT) has increased its international bandwidth by 10Gbps, to cope with the increased demand for data from 3G services. According to THD, the increase boosts the nation's total international capacity to 100Gbps.

(December 1, 2014) Tunisie Haut Debit (THD)

Turkey

Chairman & CEO: Dr. Tayfun Acarer
[Information & Communication Technologies
Authority (BTK)]

Members of the Council of Ministers and top military officials will get new anti-wiretapping phones before the end of the year, Industry Minister Fikri Işık said, while arguing that the "parallel structure" - a phrase used to describe the Gülenist movement - was deeply rooted in the strategic boards of the country's top science body. "The parallel structure was entrenched in strategic positions at TÜBİTAK [The Scientific and Technological Research Council of Turkey], such as the crypto department. They were not in the science or education departments. They performed wiretapping in military project fields. If you're not an organization, then why are you at the crypto department?" Işık said to a small group of journalists on December 23, indicating that the government was fair when it labeled the Gülen movement under U.S.-based Islamic scholar Fethullah Gülen a criminal organization aimed at toppling the elected ruling party. Earlier this week the Minister for Transportation, Maritime Affairs and Communications Lütfi Elvan announced that they plan to move the TİB headquarters because operations at the headquarters before the start of a large graft probe last December were unknown to the government. The government and Erdoğan, who was the prime minister at the time, have accused the Gülen movement of organizing a plot, thanks to a graft probe that began on December 17, 2013. Wiretappings, which include alleged voice recordings of Erdoğan and his family members, along with some Cabinet members and a number of businesspeople, were leaked online simultaneously with the probe last year. (December 31, 2014) hurriyetdailynews.com

Turkcell has announced the integration of 3-Carrier (3C-HSDPA) technology to its 3G network. With this integration, Turkcell becomes the first mobile operator globally to have introduced the world's fastest 3G technology. The development follows the world's first live trial of 3-Carrier technology, in which download speeds of up to 63.3 Mbps were achieved on the Turkcell network. Six months later, 3-Carrier is fully integrated into Turkcell's 3G network in 81 Turkish cities. The network update also includes the integration of dual carrier upload technology (DC-HSUPA), through which users can experience up to 11.5 Mbps upload speeds in 3G - twice the current offering.
(December 26, 2014) businesswire.com

United Arab Emirates

**Director General: Mr.
Mohamed Nasser Al Ghanim**
[Telecommunication
Regulatory Authority (TRA)]

The Telecommunications Regulatory Authority (TRA) launched the new UAEPedia website and smart device application at a workshop at its Dubai office. Several representatives from federal and local government entities had gathered to participate in the workshop.

The workshop comes in line with the efforts of the TRA to shift towards a mobile government in order to enhance and improve the nation's ICT sector. The UAE mGovernment team had been working hard to develop and re-launch the UAEPedia website to enable a greater degree of interaction with the public. The UAEPedia app is available in the official UAE mGovernment app store. "UAEPedia represents a national platform for information concerning our homeland: its history, heritage and cultural and political figures, while housing countless informational channels. We have developed this encyclopedia to promote patriotism towards our nation and its leadership," said H. E. Hamad Obaid Al Mansoori, Director General, UAE mGovernment. "The project is based on the principle of sharing, which will flourish with the efforts of many other entities with whom we will be working in the near future. Hence, I would like to thank all the participants in this workshop in advance and invite them to actively contribute information to enrich the encyclopedia with their knowledge," he added. Stressing the importance of preserving the Arabic language and making information available online in Arabic, Al Mansoori said, "The UAEPedia comes in line with our ongoing efforts to support Arabic content and the creation of an electronic record that conveys the UAE's message to the world. Each contributor would have a responsibility with regard to their role in building the UAEPedia and to ensure constant flow of accurate information about our beloved nation." The workshop included the screening of a short video about the UAEPedia application and an introduction to the new version of the encyclopedia. It also included a session to address the participants' queries relating to the encyclopedia. (December 29, 2014) .zawya.com

REGULATORY ACTIVITIES BEYOND THE SAMENA REGION

REGULATORY UPDATES

Argentina

Argentina's Chamber of Deputies, the lower house of the National Congress, has approved a new telecommunications law, replacing the existing legislation that dates back to 1972. The legislators voted 131 in favor and 97 against the 'Digital Argentina' bill, which will allow companies to provide bundled telephone, internet and cable television services. It also creates the Autoridad de Aplicacion de las Tecnologias de la Informacion y las Comunicaciones (AFTIC), a new seven-member body responsible for controlling and regulating all ICT-related matters. 'Telecommunications should be a human right,' said Mario Oporto, president of the communications committee, adding: 'Information and communications technologies should work in the public interest.' Critics argue that the new bill, which still needs to be signed by President Cristina Fernandez to be enacted, will benefit market leaders rather than increasing competition. 'Instead of defending the interests of users ... this is a measure designed to secure and expand the business interests of the telecoms companies, further cementing their dominant positions,' argued opposition legislator Roy Cortina of the Socialist Party.
(December 18, 2014) reuters.com

Following the recent confirmation of the 3G and 4G spectrum bands issued to Claro Argentina and Telecom Argentina (Personal), the Secretaria de Comunicaciones (SeCom) has confirmed that Telefonica Moviles (Movistar) has been awarded Long Term Evolution (LTE) frequencies in the 1710MHz-1720MHz and 2110MHz-2120MHz bands. All spectrum is available on a nationwide basis. Personal was handed a national 4G license encompassing 1730MHz-1745MHz and 2130MHz-2145MHz spectrum, while Claro was issued with a national LTE license comprising 1720MHz-1730MHz and 2120MHz-2130MHz frequencies. The spectrum awarded to the fourth and final bidder, media conglomerate Arlink (Grupo Uno), has yet to be confirmed by the regulator.
(December 3, 2014) telegeography.com

Australia

Australia's Optus has extended its 4G coverage in the Australian Capital Territory (ACT) on the back of receiving early access commercial license approval for 700MHz spectrum from the Australian Communications and Media Authority (ACMA). In announcing the development the operator noted that the concession had 'paved the way for [it] to expand and upgrade its existing

superfast 4G network across Canberra with 700MHz spectrum, bringing 4G to more places and improving the data experience indoors'. With Optus' 4G services in Canberra having previously been offered using spectrum in the 2300MHz band only, more than 20 LTE-700 sites are now reportedly up and running across Canberra, with the cellco saying it has 'further plans to continue expanding 4G coverage in Canberra using 700MHz'. Earlier this month, Optus confirmed that the ACMA had granted it early access license approvals for LTE in the 700MHz band in 200 regional locations, in line with which it coverage across greater Darwin using such spectrum, while it also has other live sites offering LTE via the aforementioned band in locations including: Toowoomba, Ballarat, Bendigo, Coffs Harbour, Dubbo, Nowra, Port Macquarie, Urunga, Bundaberg and Murray Bridge. With regard to the latest deployment, Vic McClelland, Optus' managing director of networks, was cited as saying: 'This is great news for consumers, government and business in the ACT. Our new spectrum will offer improved indoor 4G coverage and expand our existing 4G services ... Our aim is to deliver 4G services to more than 200 regional and holiday destinations by April 2015, taking our population coverage to 90% of the Australian population.' (December 8, 2014) telegeography.com

Brazil

Telecoms regulator ANATEL has confirmed that it has approved Telefonica's US$9.83 billion acquisition of broadband provider Global Village Telecom (GVT) from French media group Vivendi, albeit with certain conditions attached. In a bid to maintain competition, the watchdog has insisted that Telefonica and GVT cede some of their fixed telephony licenses in service areas where their operations overlap, and also to maintain existing service plans for customers for a period of 18 months. Meanwhile, ANATEL has noted that the transfer of Telefonica-owned Telecom Italia (TI) shares to Vivendi – which forms part of the takeover deal – will be assessed separately. (December 24, 2014) telegeography.com

Burkina Faso

The Regulatory Authority for Electronic Communications and Posts (ARCEP) in Burkina Faso has announced the re-numbering of some of the country's fixed telephone network. Landlines with the pre-fixes '40' and '50' have changed to start with '24' and '25' respectively, affecting around 120,000 fixed subscribers living in northern, eastern and central provinces, with ARCEP chairman Mathurin Bako explaining: 'The redevelopment plan is needed to enable ARCEP to create new spaces for mobile operators that are major consumers of telephone numbers.' (December 17, 2014) telegeography.com

Canada

Canada's government has announced plans to release an 'unprecedented amount of mobile spectrum' in 2015, with Industry Canada claiming that by May 2015 the amount of spectrum available to provide mobile services to consumers will have increased by almost 60% against early 2014. As part of its plans, the state has confirmed it will launch an auction of 'Advanced Wireless Spectrum-3' ('AWS-3') frequencies (1755MHz-1780MHz, 2155MHz-2180MHz) on 3 March 2015, with it saying these will 'enable the delivery of fast, reliable

service on the latest Smartphones, tablets and mobile devices and to encourage sustained competition'. In addition, the government said it will seek views on plans to make spectrum in the 600MHz band available for mobile use, and plans to provide a path for mobile use in the 3500MHz frequency band, while maintaining existing fixed-wireless internet services in rural areas. Further, the state intends to develop a plan to enable use of the AWS-4 spectrum band (2000MHz-2020MHz and 2180MHz-2200MHz) in order to enable the launch of a new operator, with a view to increasing '[the] choice to Canadians, especially those in rural and remote areas'. Rounding out the plans, Industry Canada said an additional 2100MHz of spectrum will be made available, while it intends to establish a 'more efficient and consistent process' for new concessions in the 24GHz, 28GHz and 38GHz bands. Commenting on the plans, James Moore, Canada's Minister of Industry, said: 'Spectrum is essential to power our wireless devices, and our government is making it more available than ever before. The end result is that Canadians will benefit from more competition, lower prices and better service in our wireless sector. The Harper Government is committed to delivering competitively priced wireless services on the latest technologies. (December 19, 2014) telegeography.com

China

Ministry of Industry and Information Technology (MIIT) will consider allocating licenses for Frequency Division Duplex Long Term Evolution (FDD-LTE) in 2015, when conditions are mature, Miao Wei, the Minister of Industry and Information Technology told press at a conference earlier this week. Concessions for the use of the technology had previously been expected to be handed out before the end of 2014, and the delay will be a blow for mobile providers China Telecom and China Unicom, as both players intend to use the technology as their primary 4G platform. News portal C114 also cites the official as saying that the coverage of fiber-to-the-home (FTTH) networks will reach 70 million homes by the end of 2014, with 4G subscriptions surpassing 90 million and the number of IPTV users reaching 33.4 million. Further, the proportion of broadband customers utilizing connections of 8Mbps or higher will reach 38.9% by that date, and non-voice services will account for 57.9% of telecoms revenues. (December 24, 2014) telegeography.com

Croatia

Regulatory Authority for Network Industries (HAKOM) has awarded spare 1800MHz wireless spectrum to mobile operators Tele2 and T-Hrvatski Telekom (T-HT). The two companies were the only firms to show interest in the frequencies, with the former requesting a 2×15MHz block and T-HT asking for 2×10MHz. The licenses are technology neutral so could be used for 4G Long Term Evolution (LTE) technology. Mobile market leader T-HT launched 1800MHz LTE services in 2012, while third-placed Tele2 has still to introduce its own 4G services. The second largest operator VIPnet did not submit an application for the spectrum when bids were invited last month. (December 22, 2014) telegeography.com

Denmark

Telecoms watchdog the Danish Business Authority (Erhvervsstyrelsen) has published its final decision with regards to the Long-Run Average Incremental Cost (LRAIC) model for fixed networks used to determine LRAIC based costs for certain (wholesale) access and interconnection services in Denmark for the period between January 1, 2015 and December 31, 2015. Under the final decision, wholesale prices of fixed line broadband will be reduced for the aforementioned period, in order to 'give companies an even better opportunity to offer cheaper broadband services for the benefit of their customers.' Helle Bojen Larsen, Head of Division at the Erhvervsstyrelsen, said: 'The Danish LRAIC model is developed in accordance with the latest European Commission (EC) guidelines. One of the pillars is to ensure the right balance between competition and investment. The Danish Business Authority believes that the new, lower wholesale prices provide increased opportunities for competition in the Danish market, without having investment opportunities weakened.'

(December 9, 2014) telegeography.com

ETNO

The European telecoms sector is set to return to growth in 2016 following six years of falling revenues, according to the annual report of Industry lobby group ETNO (European Telecom Network Operators), prepared by IDATE. Overall telecoms services revenues were 4 percent lower in 2013 than the year before and reached EUR 252.8 billion. However, the report forecasts that the decline in revenues will slow to -1.8 percent in 2014 and return to a positive growth of 1 percent in 2016. "The downturn seems to be losing momentum and growth levels in Europe have become less negative than before," said the report. ETNO's annual report also confirmed that the investment gap between Europe and the US is widening. In the period 2012-2013 the overall CAPEX growth in the EU was negative (-0.4 percent), compared to strong growth in the US (+5.7 percent). The European telecoms sector as a whole invested EUR 46.7 billion in 2013. Presenting the report, ETNO's chairman Luigi Gambardella said he was confident the new European Commission would reform regulation to boost investment. "The time for reform is now. Data shows that a new phase of growth is in sight. We need to encourage this expectation with a new regulatory and policy framework," he said, adding that "more investment will mean better networks and better services for European citizens and businesses." (December 12, 2014) telecompaper.com

France

ARCEP has issued a license authorizing domestic cellco Free Mobile to use 5MHz of spectrum in the 1800MHz band throughout Metropolitan France (excluding Paris, Nice and Marseille) from January 1, 2015. The wireless operator will be awarded an additional 5MHz on April 1, 2015 to offer services in Marseille, while its final 5MHz batch of frequencies will be released on July 1, 2015, covering Nice and Paris. In March 2013 the regulator published its guidelines for the refarming of 1800MHz spectrum for Long Term Evolution (LTE) services, by stating that these frequencies would become technology neutral from 25 May 2016; the guidelines aim to ensure balanced allocation of spectrum between the country's three established mobile operators – Orange

France, Bouygues and SFR – and newest entrant Free Mobile. The watchdog also said that operators could request for the technology restriction to be lifted before then, with Bouygues Telecom applying for permission to use the 1800MHz band for LTE services in March 2013.

(December 22, 2014) telegeography.com

Telecoms regulator ARCEP has launched a two-month public consultation on a strategic review of spectrum for ultra-high speed mobile systems, following the government's announcement that Long Term Evolution (LTE)-suitable frequencies in the 700MHz band will be allocated for telecoms use. ARCEP said that the document examines the two paths that will help sustain and accelerate the ongoing upgrade of mobile networks: reusing existing frequencies with more efficient technologies; and making new frequencies available, notably those in the 700MHz band. The regulator is seeking feedback on 'the issues involved in and the system to be used to allocate 700MHz band frequencies'; the responses will enable ARCEP to establish a framework for allocating spectrum in the aforementioned band. All interested parties are invited to submit their comments by February 16, 2015. Last week, the government announced a timeframe for the planned auction of the 700MHz band by stating that the tender will be initiated in the second half of 2015; the process could generate up to EUR2.1 billion (US$2.6 billion) for the treasury. Although the allocation of the spectrum, which is currently used for Digital Terrestrial Television (DTT) transmissions, is scheduled to take place in December 2015, Prime Minister Manuel Valls clarified: 'The actual transfer will take place between October 1, 2017 and June 30, 2019, with the exception of a few areas where [the frequencies] could be used by April 2016.' All four domestic cellcos – Orange France, Numericable-SFR, Bouygues Telecom and Iliad (Free) – are expected to bid in the auction. (December 18, 2014) telegeography.com

France will allocate 700-MHz mobile licenses late next year, Prime Minister Manuel Valls announced. The frequencies will be awarded to telecoms operators in December 2015, Valls said in a statement, without elaborating on the allocation procedure. The spectrum, currently in the hands of digital terrestrial TV (DTT) providers, will be cleared for use for mobile broadband for the most part between 1 October 2017 and 30 June 2019, he said. In a few areas, the spectrum will be available as early as April 2016. According to Reuters, the government will auction off the licenses and expects to generate upwards of €2 billion as a result. The newswire noted that all four of France's mobile network operators are likely to take part in the contest, but also referred to comments made by Xavier Niel, founder of Iliad, who recently suggested that the auction will show which of the operators are willing to be serious long-term investors in the market. Iliad owns market disruptor Free Mobile, which as a relatively new entrant owns less spectrum than its rivals. Therefore it makes sense that Iliad will seek to acquire as much 700 MHz spectrum as it can. The future is less certain for Bouygues Telecom, which finds itself in a difficult position following the tie-up between cable operator Numericable and mobile player SFR earlier this year. There were reports that both Iliad and Orange would seek to acquire Bouygues Telecom, but no deal was forthcoming and last month Niel ruled his company out of any future M&A maneuver. As a result, Niel said, "there will be no consolidation". However, Numericable might have other ideas. Recently Altice, Numericable's parent company, intimated that it might be interested in making a move for Bouygues Telecom next year, once it has completed its merger with SFR. (December 11, 2014) totaltele.com

The European Commission (EC) has approved the ARCEP's draft decision regulating the markets for fixed voice call termination and mobile voice call termination from 2014 to 2017, although the European regulator has requested additional justifications for SMS termination rates. ARCEP will now finalize the process for adopting its analysis of the wholesale markets for fixed voice call termination and mobile voice call termination, which is set to introduce a decrease in maximum call termination rates from January 1, 2015. Meanwhile, the EC has requested additional justification for the regulation of the wholesale markets for SMS termination. The authority has questioned the relevance of a new SMS termination regulation that could, in its view, disadvantage the development of instant messaging (IM) services, and so reduce the resulting benefits to consumers in terms of choice, quality and price. The EC has, therefore, launched a two-month period of investigation and dialogue with ARCEP and the Body of European Regulators for Electronic Communications (BEREC), after which it will decide whether or not to approve the draft decision. (December 4, 2014) telegeography.com

Germany

Following an in-depth investigation, the European Commission (EC) has concluded that the approach of the German telecoms regulator, the Federal Network Agency (FNA) for the calculation of fixed termination rates (FTRs) does not follow the European Union (EU) recommended approach and leads to competition and consumer harm. According to the FNA, FTRs for alternative fixed operators will be based on the previously applied methodology for incumbent operator Telekom Deutschland (TD), but the EC says that, if adopted, the new rates in Germany would be over 200% higher than in member states that follow the EC's recommendation. Brussels says it now requires the FNA to withdraw its proposal or to amend it in order to bring it in line with the EC's guidelines. In its proposal, the FNA defined FTRs that should apply retrospectively as of December 1, 2012 until 30 November 2014. In April 2013 the EC criticized the German regulator's method for calculating FTRs for TD and in August 2013 issued a recommendation directing the FNA to amend or withdraw the proposal. However, the German watchdog did not follow the recommended guidelines, and now intends to set FTRs for the remaining operators following the same approach it applied for TD. (December 17, 2014) telegeography.com

Georgia

Vimpelcom-backed Mobitel was the only mobile operator to submit an application to participate in the Georgian government's upcoming Long Term Evolution (LTE) spectrum auction, the Georgian National Communications Commission (GNCC) has confirmed, following the December 19 expiration date. The auction will take place on December 29, and the regulator notes that Mobitel will be confirmed as the winner of the 2x 10MHz blocks in the 800MHz band provided it is willing to meet the GEL48.364 million (US$25.427 million) license fee and the GEL2.418 million bidding fee. Going forward, the coverage obligations are as follows: 30% of all settlements of over 5,000 people by February 1, 2016; 50% by February 1, 2017; 70% by February 1, 2018; and 90% by February 1, 2020. (December 24, 2014) telegeography.com

The Georgian National Communications Commission (GNCC) says that it has started to modify the radio frequency spectrum licenses of the country's existing telecoms operators to allow for the provision of 4G services. Under Resolution No. 9 of the GNCC, which came into effect on December 4, 2014, the modification of scarce resources already issued by the regulator will be carried out for the usage of harmonized radio frequency ranges (800MHz/900MHz/1800MHz/2100MHz). The duration for the modified technology and service neutral licenses is 15 years. In September the GNCC announced that PricewaterhouseCoopers (PwC) Central Asia and Caucasus had been awarded the contract to establish the value of spectrum in the 800MHz, 900MHz, 1800MHz and 2100MHz frequency bands. According to the watchdog, the methodology developed by PwC has been used to determine the initial value for new 4G Long Term Evolution (LTE) licenses, as well as for the extension of existing concessions. (December 15, 2014) telegeography.com

Ghana

Ghanaian telecoms watchdog, the National Communications Authority (NCA), has refuted media claims that it plans to increase some telecoms tariffs by up to 50% in 2015. The authority said in a press release that 'the facts of the issue as reported in the press are not reflective of the ongoing process in reviewing wholesale interconnection rates for the mobile network operators'. The NCA pointed out that it has already discussed the impact of an Interconnect Clearing House, set to be established in May 2015, on wholesale interconnection rates; the NCA highlighted that the operation of the Clearing House will mitigate the rising trends affecting wholesale interconnection tariffs. (December 8, 2014) telegeography.com

GSMA

Tom Phillips, Chief Regulatory Officer, GSMA, offered the following statement regarding the Telecoms Ministers' meeting on the Telecoms Single Market package in Brussels "Today's rejection by the Council of Ministers of large sections of the Telecoms Single Market package gives Europe's policy makers a chance to take a fresh look at the region's telecoms single market future. A bold new vision is required, which deals decisively with issues such as the new Internet bottlenecks and the years of accumulated legacy regulation that have held back investment in Europe's networks. "Now is the time to address these issues with clear, long term thinking and the GSMA urges the Council of Ministers, Commission and Parliament to start work as fast as possible."Despite falling revenues, increased regulation and a challenging economic climate, the telecoms industry continues to play a key role in building Europe's digital future, investing almost €30 billion each year from now to 2020 in next-generation mobile networks. While the Commission's proposed Investment Plan is a step in the right direction, there is an opportunity for the EU institutions to create policies that further boost investment and support innovation. "In Europe, there is a legacy of outdated telecom-focused regulation, while major Internet players remain largely unregulated. If the region is to regain its digital leadership, the EU institutions urgently need to redress the balance between the rules for network operators, who are actively investing in Europe's digital infrastructures, and those for global Internet companies. "By taking a general principles-based approach to the Open Internet proposals, the Council would avoid overly prescriptive rules that risk undermining crucial network management and innovation that make the Internet work for everyone."Finally, broad and bold reform of spectrum policy is vital to support the identification

and deployment of harmonized spectrum for mobile broadband across Europe. By reassessing the region's current approach to spectrum policy, this will support the significant socio-economic benefits that mobile broadband can deliver." (December 1, 2014) cellular-news.com

Guinea

Telecoms Minister Oye Guilavogui has once again announced that defunct state-owned full-service telecoms operator Societe des Telecoms de Guinee (SOTELGUI) will resume operations, promising that the provider will relaunch in February 2015, with 4G services added to its portfolio. In an interview with local news portal Ramatoulaye.com, Mr. Guilavogui said that the government would not fail in its promise this time. The telecom minster said in August this year that the telco would be up and running 'soon' with the first calls to be made over the network by the end of that month. Prior to that, in January 2014, the official had promised that the telco would be back on its feet before the end of 2014. (December 24, 2014) telegeography.com

Hong Kong

Hong Kong has raised HK$2.42 billion (€252 million) from the sale of 2.1 GHz spectrum to three of its existing mobile operators. Hong Kong's Office of the Communications Authority (OFCA) announced earlier this week that SmarTone, China Mobile and 3 had emerged victorious from the sale of 49.2 MHz of spectrum in the 1,900 MHz-2.2 GHz band. The sum raised was only slightly ahead of the base price of HK$2.36 billion, or HK$48 million per MHz. SmarTone walked away with the most spectrum, picking up 19.8 MHz for HK$980.4 million. China Mobile was close behind with 19.6 MHz for HK$970.4 million. Hutchison's 3 agreed to pay HK$470.4 million for 9.8 MHz of frequencies. SmarTone and 3 already hold spectrum licenses in the 2.1 GHz band that are due to expire in October 2016. They exercised their first right of refusal to two thirds of their existing holdings earlier in the year. The remainder, plus spectrum that rival players HKT and CSL are required to divest as part of their merger agreement, was sold through the auction. China Mobile does not have an existing 2.1 GHz license. HKT completed its US$2.43 billion (HK$18.87 billion) purchase of CSL in May. The OFCA gave the go-ahead to the deal on condition that the merged entity divest 29.6 MHz of spectrum by not seeking the renewal of its 2.1-GHz licenses. In addition, the merged company was not permitted to take part in the auction. "While 29.6 MHz out of the 118.4 MHz in the 1.9 GHz–2.2 GHz band will change hands with effect from October 2016 (i.e. from HKT to SmarTone and China Mobile), the incumbent and the new spectrum assignees [will] have about two years to prepare for the necessary network reconfiguration and the rollout of their networks respectively," an OFCA spokesperson said, in a statement. "OFCA will liaise closely with the mobile network operators concerned to ensure a smooth changeover during the run up to October 2016," the regulator added.
(December 11, 2014) totaltele.com

India

A telecom department panel has suggested that all gateways and application servers used to deliver machine-to-machine (M2M) services in future be located in India on national security grounds, according to an internal note. M2M applications are an emerging area in the telecoms space that allow both wireless and wired systems to communicate with each other. M2M, typically, uses devices such as sensors to transfer information over a telecom network. Services such as security and surveillance, remote monitoring of ATM machines, home automation, traffic management, retail, logistics and grid energy could eventually benefit through M2M solutions, which are also expected to support the Centre's Rs 7,000-crore 'Smart City' project. The draft M2M policy guidelines were recently discussed at a meeting chaired by a top official in the Telecom Commission, which is the apex decision making wing in the communications ministry. The DoT panel has also recommended that M2M service providers (MSPs) will be "governed jointly by DoT regulations and norms applicable to specific industry-vertical" where the M2M solution is deployed. All MSPs using infrastructure of licensed telecom operators will have to be registered and the DoT will shortly issue separate registration guidelines, the note, a copy of which was seen by ET, shows. The registration is critical to pave the way for national security agencies to legally monitor MSP operations. The DoT panel will also outline a distinct spectrum policy purely for M2M services, the note shows. The government is keen to unveil its M2M policy roadmap since industry experts reckon that India has huge potential for such services, especially with the proliferation of 3G and 4G services, which are expected to trigger an exponential growth for M2M transactions in the next three years. Industry experts, however, believe data privacy remains a tricky issue in the M2M scenario since information would be shared and used with third-party vendors. Accordingly, they hope that DoT will address the issue while formulating the M2M roadmap. (December 18, 2014) economictimes.indiatimes.com

India's forthcoming spectrum auction will likely include some 3G spectrum, the local press reported on Friday, just days after the publication of inflated reserve prices for 800 MHz, 900 MHz and 1800 MHz bandwidth. The country's defense ministry has agreed to free up 5 MHz of frequencies in the 2.1 GHz band in 17 circles, the Economic Times claimed, citing unnamed sources. However, they added that there has been no decision yet on a further 15 MHz of 3G spectrum that is due to be made available by moving services to other bands. An imminent resolution on that matter seems unlikely, the sources said. The 5 MHz of spectrum will be released "soon" though and officials hope it will form part of February's auction, the paper's sources said, although the agreement still requires cabinet approval. India plans to sell off spectrum in the 800 MHz, 900 MHz and 1800 MHz bands in February. The Telecom Commission earlier this week set base prices for those airwaves, setting the price per MHz for 900 MHz spectrum at 36.93 billion rupees (€476 million), some way ahead of the Telecom Regulatory Authority of India's (TRAI's) INR30.04 billion recommendation. The Commission has put the price of 800 MHz spectrum at INR36.46 billion per MHz and 1800 MHz at INR21.91 billion per MHz, the Economic Times said. The prices have yet to be approved by telecoms minister Ravi Shankar Prasad. The TRAI has yet to publish recommended prices for 3G spectrum but is under pressure from the government to do so, the newspaper said. (December 12, 2014) totaltele.com

The Department of Telecommunication (DoT) has agreed to allow wireless operators Bharti Airtel and Vodafone India an extension to their permits in Delhi, Kolkata and Mumbai to limit disruption as the cellcos reconfigure their networks to their new frequency bands, the Economic Times writes. The Telecom Commission is set to meet today and is expected to ratify the DoT's plans.

Under the proposal, the cellcos will have their existing spectrum rights extended until December 15 in Mumbai and Kolkata, and until January 14 in Delhi, in order to allow time to reconfigure their networks to their new spectrum allocations. In its note to the Telecom Commission, the DoT explained its decision which is designed to: 'To avoid large-scale disruptions to networks which may cause inconvenience to millions of subscribers and in public interest.' Both operators were left in the lurch by the DoT, receiving their new spectrum allocations for the metro circles with less than a month to reconfigure their networks before their existing licenses expire – a process the duo claim should take six months to complete. The new spectrum was acquired in February this year, but delays from the DoT left the operators with weeks to alter their systems, rather than the months that they had anticipated. The cellcos' licenses ended on November 29, but the duo has not returned the spectrum.
(December 8, 2014) telegeography.com

The Telecom Regulatory Authority of India (TRAI) said that it has been asked to expedite the process for its recommendations on the reserve price of 2100 MHz band and issued the consultation paper to seek comments on issues related to valuation and reserve price. In a statement TRAI said, "DoT requested TRAI to expedite the process for its recommendations on the reserve price of 2100 MHz band and related issues so that the auction of spectrum in this band could be conducted along with the auction of spectrum in the 800/900/1800 MHz bands scheduled in February 2015." The regulator said that the key issues raised in the consultation paper relate to the roll-out obligations, spectrum cap, different models and approaches for the valuation of the spectrum and estimate of reserve price of spectrum in the 2100 MHz. (December 2, 2014) thehindubusinessline.com

Italy

Italy's telecoms regulator AGCOM has made a retroactive cut to the rates for local loop unbundling (LLU) for the period 2010-2012. The move follows an investigation into the rates by the country's Council of State. The rate for 2012 will be cut by EUR0.23 per line, from EUR9.28 to EUR9.05 (US$11.58 to USD11.29), while the rate for 2010/11 has dropped from EUR8.90 to EUR8.67. The cuts mean that incumbent operator Telecom Italia (TI) will be forced to repay tens of millions of euros to alternative operators for lines which were unbundled over the three-year period. TI has said it will appeal the decision, with Italian financial news portal FIRSTonline reporting TI chief executive Marco Patuano as expressing his 'bitterness' at how the rates can be set and altered retroactively. (December 17, 2014) FIRSTonline

Jamaica

Jamaica's Court of Appeal has ruled that the 2011 merger between two of the country's three mobile operators – Digicel and Claro – was in keeping with the Telecommunications Act and did not contravene the Fair Competition Act (FCA). Jamaica's Fair Trading Commission (FTC) challenged the merger towards the end of 2011, saying it created a less competitive cellular market, with the enlarged Digicel/Claro having just one rival, Cable & Wireless Communications (CWC) subsidiary LIME. Digicel responded by filing a counter-claim, saying the FTC had no jurisdiction, though this argument was eventually overturned by the Supreme Court. According to a report from the Jamaica Observer,

the Court of Appeal has now decided that the FCA does not apply to the tie-up as there was no collusion between the operators. (December 24, 2014) telegeography.com

Jamaica's Office of Utilities Regulations (OUR) has received five applications from firms looking to manage the country's number portability systems. A report from the Jamaica Gleaner names the parties as: local company Productive Business Solutions, plus overseas bidders Mediafon (Lithuania), Porting Access (Netherlands), Telcordia Technologies/Iconectiv (US) and Teletech (Slovenia). The regulator will select the winning provider on a competitive basis, with fixed and mobile number portability scheduled to be implemented by the end of May 2015. (December 22, 2014) telegeography.com

Jamaica's Minister of Science, Technology, Energy and Mining, has reaffirmed the government's commitment to launching fixed and mobile number portability (NP) by the end of May next year. According to a release from the government's Jamaica Information Service (JIS), Phillip Paulwell told an ICT conference: 'I have mandated the Office of Utilities Regulation (OUR) and all the providers that come May 31, 2015, we will have full portability.' Authorities initially planned to implement NP in May this year but fixed line and mobile operator LIME said its systems were not ready and it needed more time to prepare for a launch. Paulwell now warns there will be no further delays to the schedule: 'Those companies that are not ready, they are going to feel the full brunt of the law and the authority that I have, because this has been outstanding for too long and people should have been ready by now.' (December 3, 2014) telegeography.com

Kenya

Kenya's Communications Authority revealed the launch of a consumer awareness campaign ahead of the switch-off of analogue broadcasting in the Nairobi area December 31. The regulator has urged citizens to obtain digital set-top boxes to avoid a last-minute rush after the switch-off. CA Director General Francis Wangusi stated that there would be no extension of analogue broadcasting, as there is limited time left to the June 2015 deadline set by the ITU. The awareness campaign is expected to see a caravan of road shows tour various environs in the city. The phased switch to digital will see Mombasa, Malindi, Nyeri, Meru, Kisumu, Webuye, Kakamega, Kisii, Nakuru, Eldoret, Nyahururu (Nyadundo), Machakos, Narok and Londiani (Rongai) stop analogue broadcasting on February 2, 2015. The rest of the country will switch March 30, 2015. The Authority has approved over 60 vendors of digital TV receivers. (December 29, 2014) itnewsafrica.com

Macau

The government of Macau has renewed the 3G licenses of the territory's four mobile network operators Companhia de Telecomunicacoes de Macau (CTM), Hutchison (3), Smartone and China Telecom (Macau) until June 2023, on condition that the cellcos meet certain conditions. Starting in January 2015, operators will have to inform clients about their quantity of mobile data usage, while from April operators must ensure that, once a user's mobile data limit has been reached, user confirmation will be required before allowing extra data usage. Additionally, from June 2015 operators are requested to provide information on data usage in real

time. In case of delays in providing such information, no extra costs can be charged to clients. According to a statement on the website of sector regulator the Bureau of Telecommunications Regulation (DSRT), the government will also require the operators to 'launch a customer protection mechanism with regard to faults in networks, encouraging them to continue to invest resources in improving network infrastructure'. Additionally, the Macanese government confirmed its intention to continue 2G services running in the Special Administrative Region (SAR) to serve roaming tourists, and while the DSRT's statement said it would review the situation in due course, it did not give a timeframe. As it stands, in June 2015 all local 2G mobile services in Macau are set to be switched off, and only 3G (and future 4G) services will be provided to Macanese users, but 2G roaming services for tourists are to remain on offer under previous agreements between the operators, regulator and government. CTM, 3 and SmarTone remain obliged to keep their 2G infrastructure active alongside their W-CDMA/HSPA networks for the time being (although subject to review by the DSRT), whilst China Telecom operates 3G-only CDMA-based services. Three of the cellcos' existing 3G concessions were due to expire in June 2015, except SmarTone whose 3G license runs until September 2017. The database shows that just 0.2% of Macau's mobile subscribers remained on 2G services by end-September 2014. The results of Macau's 4G license tender are expected in Q1 2015. (December 17, 2014) Macau Business Daily

Mexico

Mexico has planned to auction high-speed mobile phone spectrum in 2015 for the first time in five years as the government seeks to ramp up competition in a sector long dominated by tycoon Carlos Slim. The Federal Institute of Telecommunications (IFT) said it aimed to auction 60 Megahertz (MHz) of spectrum in frequency bands between 1.71 Gigahertz (GHz) and 2.17 GHz. It did not specify when the auction would take place next year. Mexico's government completed a major telecommunications reform in 2014 designed to loosen the hold Slim's America Movil has long had on the market. Next year could see the arrival of U.S. giant AT&T to compete with the billionaire. At the weekend, the IFT approved AT&T's $1.7 billion purchase of Iusacell, Mexico's third-biggest mobile operator, which lags far behind America Movil. Slim's company has around 70 percent of the mobile market in Mexico. The IFT said it would also auction 10 MHz of spectrum between 440 and 450 MHz to boost available capacity for private radio communication systems, as well as blocks of frequency for social and rural use between 824 and 894 MHz. (December 23, 2014) reuters.com

Moldova

Moldova's telecoms watchdog – the National Regulatory Agency for Electronic Communications and Information Technology (ANRCETI) – has revealed that domestic telecoms operators Orange Moldova and Moldcell have migrated their 2G networks to the 900MHz band, as outlined by Decision No.116 of 11 February 2013. The process will be carried out simultaneously by both providers in order to avoid mutual interference issues, although the transition could cause 'temporary damage' to 2G quality of service (QoS) in some geographical areas for a few days. The regulator pointed out that the process will not affect 2G services offered over the 1800MHz band, or 3G and 4G Long

Term Evolution (LTE) networks, which operate in the 2100MHz and 2600MHz bands. The reallocation of radio frequencies in the 900MHz band is in accordance with the regulator's spectrum management program for 2013-2020, under which ANRCETI granted new licenses for the operation of mobile networks in the 800MHz, 900MHz and 1800MHz spectrum bands. Orange and Moldcell received three licenses each for the use of spectrum in the 800MHz (2×10MHz), 900MHz (2×10MHz) and 1800MHz (2×25MHz) bands, while Moldtelecom was awarded 2×5MHz in the 900MHz range and 2×25MHz in the 1800MHz band. The concessions have a 15-year validity, effective 6 November 2014. (December 8, 2014) telegeography.com

Montenegro

Montenegro's Agency for Electronic Communications and Postal Activity has announced the start of the consultation process on the occasion on the preparation of the plan to distribute radio frequencies in the 2500-2690 MHz band. The consultation will also serve to define the regulatory and technical framework for the implementation of TRA-ECS public electronic communication networks, including IMT systems. Any interested parties should submit their comments, opinions and suggestions in the next 30 days. (December 29, 2014) telecompaper.com

Nigeria

The Nigerian Communications Commission (NCC) has shut down the operations of four companies that it said had been using the 5.4GHz frequency band without permission. The Steam Communications, Netcom Africa, SwiftTalk and Multi-dimension Technologies, all located in Lagos, have not been licensed by the NCC to operate in the 5.4GHz band. The regulator has confiscated the equipment of the operators and will carry out an investigation into the quartet's activities. (December 11, 2014) Nigeria News Agency

Norway

The Norwegian Post and Telecommunications Authority (NPT) has sent a draft decision regarding mobile termination rates (MTRs) to the EFTA Surveillance Authority (ESA). As per the regulator's plans, it has confirmed that it is seeking to reduce the rate to a maximum of NOK0.083 (US$0.012) per minute from July 1, 2015, before mandating further reductions, to NOK0.075 and NOK0.065 from January 1, 2016 and January 1, 2017, respectively. This draft decision, it noted, would apply to those companies deemed to hold significant market power (SMP) in the market for voice call termination on mobile networks (market 7), namely: Com4, Lycamobile, Network Norway, TDC, Telenor Norge, Tele2 Norge, NetCom (TeliaSonera) and Ventelo. In September 2014 the NPT had outlined plans under which all operators designated as holding SMP in the mobile market would be required to reduce MTRs in line with the aforementioned levels, although initially it envisioned the first drop – to NOK0.083 – being implemented from April 1, 2015. Having said it had reached its decision having conducted an updated market analysis of the sector, it noted in its initial announcement that it had also developed an updated version of the Long Run Incremental Cost (LRIC) model used for calculating the costs of termination. Having now completed a national consultation on the proposals

– submissions to which were due by October 9, 2014 – it noted that there were just two changes to its original plans, those being: that the first price reduction be introduced marginally later as noted earlier; and that the scope of the regulation is limited to apply only to call made from within the European Economic Area (EEA).
(December 3, 2014) telegeography.com

Peru

Peru's Agency for the Promotion of Private Investment (ProInversion) has launched a public consultation regarding plans to auction three blocks of spectrum in the 698MHz-806MHz band. The concession are expected to be used for Long Term Evolution (LTE) services, enabling providers to extend coverage more rapidly and at a lower cost than is possible with the 1700MHz/2100MHz and 1900MHz frequencies currently used for 4G networks. The three lots on offer are as follows: Block A, 703MHz-718MHz, 758MHz-773MHz; Block B, 718MHz-733MHz, 773MHz-788MHz; and Block C, 733MHz-748MHz, 788MHz-803MHz. ProInversion expects to complete the award process by March/April 2015.
(December 3, 2014) telegeography.com

Rwanda

The Rwanda Utilities Regulatory Agency (RURA), has revealed that it is currently discussing a mobile number portability (MNP) report with policy makers and industry stakeholders. Last year RURA hired a consultant to study the feasibility of the potential implementation of a MNP project and associated costs, with the final report being submitted in November 2014. The official pointed out that a cost benefit analysis of the service will be conducted prior to its introduction in order to determine if the project will be profitable, adding: 'There is infrastructure investment involved in a centralized system which will allow people to port'. The launch of MNP services was originally slated for 2011. RURA said in February that year that it had postponed the implementation of the service to 2012 to allow the country's three mobile operators to fully establish themselves in the market. 'We have decided to postpone the introduction of the service to 2012 because the market is not yet ready for it; we also want the market to have a 60% [mobile] penetration.' The country passed the 60% mobile penetration mark in January 2014.
(December 24, 2014) Daily AllAfrica

Senegal

Telecoms regulator ARTP has published its report on the country's telecoms market for Q3 2014, showing that overall take-up levels for fixed and mobile services declined marginally in the third quarter. In the mobile sector, ARTP reported a total of 14.352 million subscribers at 30 September, down 0.3% quarter-on-quarter from 14.356 million. Orange Senegal dominates the wireless market with 55.07% of the market, or 7.904 million connections, ahead of Tigo's 24.19% (3.472 million) and Expresso Telecom with 20.29% (2.912 million). In the fixed telephony segment, ARTP reported a total of 317,653 subscribers, down from 330,858 at end-June, with total call traffic volumes slumping to an average 23.94 million minutes per month, from 25.41 million in the second quarter. The regulator also noted that Senegal was home to a total of 6.675 million (fixed and mobile) subscribers at the start of October, of which around 98% are mobile internet connections.
(December 8, 2014) telegeography.com

Slovakia

Regulatory Office for Electronic Communications & Postal Services (RU) has launched a tender for nationwide wireless broadband frequency licenses in the 3600MHz-3800MHz band. In a publication on its website RU invited bidders for three frequency blocks each with a bandwidth of 40MHz (comprising 8×5MHz blocks); an individual bidder may bid for one 40MHz block only, with a minimum bid price set at EUR250,000 (US$311,000). Prospective bidders must apply by January 14, 2015 and deposit collateral of EUR250,000 with the RU. The regulator states the aim of the competition is to help meet the aims of the Slovak national strategy for increased availability of broadband.
(December 12, 2014) telegeography.com

South Africa

South Africa's President Jacob Zuma has published a new proclamation in the country's Official Gazette, which sets out the responsibilities of the newly established Department of Communications (DOC) and the Department of Telecommunications and Postal Services (DTPS). Following the July 2014 split of the 'Old' Department of Communications (DoC) into the two separate entities, the DOC was given oversight over telecoms watchdog the Independent Communications Authority of South Africa (ICASA). However, under the new proclamation, ICASA will now report to both departments. The document transfers the administration of and powers and functions set out in the ICASA Act of 2000 and the Broadcasting Act (1999) to the DOC, while the DTPS will take control of the Electronic Communications Act of 2005, which is the overarching convergence legislation for the information and communications technology sector, and the Postal Services Act of 1998. Further, some aspects of the Electronic Communications Act – relating to broadcasting – will fall within DOC's jurisdiction, thus placing Communications Minister Faith Muthambi in charge of the countries belated analogue switch-off process. Meanwhile, South African banking group First National Bank (FNB) is reportedly in the process of expanding its fiber network to double as a backhaul for telecoms services, Business Tech reports, citing industry sources familiar with the matter. Rumors have been swirling since 2013 that FNB has its sights set on becoming a player in the South African telco space in some capacity, and it already possesses the necessary licenses to operate as a telecoms provider. In June 2013 two independent sources told BusinessTech that FNB and Cell C were in discussions over a potential mobile virtual network (MVNO) agreement. FNB allegedly declined to comment on its fiber infrastructure, with FNB CIO's Mohammed Hassem saying instead: 'FNB will continue to enhance its services where it benefits our customers and [we] will only be in a position to formally announce new services once launched.' Finally, MTN South Africa has revealed that the recent service disruptions experienced by some subscribers were caused by network upgrades and electricity utility Eskom's load shedding, MyBroadband reports. MTN noted that it recently needed to re-engineer its network in certain parts of the country to ensure that it was of an acceptable standard and was capable of satisfying the needs of customers. Eben Albertyn, chief technology officer at MTN SA, said: 'The adjustments were many and they included reviewing how we can optimally utilize the existing spectrum, which entailed re-configuring the current allocation of our spectrum.' Further, MTN added that Eskom's load shedding exacerbated the

disruptions; the operator disclosed that although it has batteries and generators at base stations in the event of power failures, these measures offered a limited backup time. The executive revealed: 'We are working tirelessly to ensure there is minimal impact on services and are planning for a speedy completion. We are aware that the demand will spike over the festive season and we remain confident that these interventions will bolster our capacity to meet expected traffic ... MTN apologizes to its customers for any inconvenience caused during this time.' (December 5, 2014) TechCentral

South Korea

South Korean mobile network operators KT Corp and LG Uplus have both been fined by the country's antitrust watchdog for excessively lowering the price of their respective corporate messaging services. With the pair having been slapped with a combined KRW6.2 billion (US$5.6 million) fine for undermining fair market competition, LG Uplus was penalized the most, with it facing a KRW4.3 billion charge. However, it has been noted that the fine amount is preliminary and will be adjusted after calculating related sales, according to the Fair Trade Commission (FTC). According to the watchdog, both operators have taken advantage of their respective networks to excessively lower the prices of their corporate messaging services – which allow companies to send clients messages such as notifications of credit card payment or updates on product delivery – effectively forcing out smaller competitors from the growing market. As these minor providers rely on the infrastructure belonging to the cellcos to send the messages, it has been claimed that both had set the price of their own corporate messaging services below cost. While the corporate messaging services market had long been dominated by smaller companies, the entry of LG Uplus and KT Corp to the sector has seen that situation reversed; according to the report in 2006 the smaller companies combined represented 71% of the market, but last year this figure had slumped to just 29%, with the mobile operator duo accounting for the remainder. Commenting on the decision to fine the cellcos, the FTC was cited as saying: 'This case is meaningful in that we have helped level the playing field and created a market condition where competition on merit can be possible.' (December 1, 2014) Yonhap News Agency

Sweden

The Swedish Post and Telecom Agency (PTS) has rejected Telenor Sweden's request for dispute settlement in an arbitration case relating to incumbent TeliaSonera's pricing of local loop unbundling (LLU) services in 2007-2008. For the period January 2007-April 2008 Telenor's request was not considered by the PTS because the issue of cost-oriented LLU prices for that period has already been considered by an appeal; for April-December 2008 PTS also rejected Telenor's request to retroactively set certain prices, because the prices Telenor suggested are lower than those TeliaSonera may charge under the existing wholesale obligation decisions of the regulator. (December 23, 2014) telegeography.com

Togo

Minister of Post and Digital Economy, Ms. Cina Lawson, has said that the small West African nation will not disclose the identity of the winner of the country's third mobile license until next year, according to

Biztechafrica.com. Speaking at a youth business forum in the capital Lome, Ms. Lawson said that candidates have until January 2015 to submit their applications, adding that the government is hopeful that the entry of a newcomer will improve telecoms voice and internet access in Togo. 'When I took over this ministry, one of my goals was to bring down the prices. And we have done just that between 2010 and 2014, lowering prices by more than 30%,' she said, adding: 'We can do better than that; that's why we launched the third license procedure.' In July this year the government of Togo began the process of auctioning off a third mobile license via an international tender. In a press release, the Ministry of Post and Digital Economy confirmed that the tender for 2G, 3G and 4G mobile services would hopefully be concluded in October 2014. A consortium composed of the investment bank Linkstone Capital, the law firm Bird & Bird and the consulting firm Artelia have been retained by the government to act as advisors on the sale. The statement went to say that interested bidders had been invited to request the Information Notice which contains (i) a synthetic presentation of the transaction process, (ii) an overview of Togo and of its telecommunications sector, (iii) a description of the integrated qualification process which will take place at the opening of the offers stage and (iv) a description of the procedure to be followed by potential investors to receive the bidding document. The closing of the transaction was expected to take place in October 2014, but has now been pushed back to January 2015. The wireless market in Togo is currently a duopoly of Togo Cellulaire (Togocel), the mobile arm of fixed line incumbent Togo Telecom, and Atlantique Telecom (Moov), which is controlled by UAE-based telecoms operator Emirates Telecommunications Corporation (Etisalat). The cellcos each received GSM operating licenses in the late-1990s. Togecel launched commercially in 1997 followed by Moov two years later, and they have since amassed more than three million users between them. Togo's mobile market generated revenue of about US$275 million in 2013, a figure that is forecast to grow by around 7% over the next five years, to US$363 million in 2018, driven in large part by pent up demand for data and improvements in network infrastructure. This is, however, not the first time that the government has tried to award a third license. In November 2008 Orange Group announced it had signed a memorandum of understanding (MoU) with the government of the West African state, opening up the way for exclusive negotiations with regards to 'a new global operator license' under the Orange brand. However, the trail went cold and the status quo remains unchanged, despite a May 2011 update in which the regulator ART&P confirmed its intentions to further liberalize the sector by licensing a new mobile operator through 'a transparent process'. Firms such as Mauritius-based Planor Afrique (owner of Telecel Faso), Libyan telecoms holding company LAP Green Network and France's Orange Group are all names to have been linked with a potential third license in Togo. (December 15, 2014) telegeography.com

Ukraine

Telecoms regulator NCCIR reports that it decided to launch the long-awaited tender for three 3G UMTS mobile licenses at its meeting of December 9, 2014, subsequent to which it is publishing an advertisement for prospective bidders to enter their proposals alongside final conditions of the tender and other related documents, in Ukraine's Official Gazette and on the regulatory site. The announcement set a February 16,

2015 date for the license auction, which is understood to be the date on which the winners will be revealed. The NCCIR will accept 3G license bid applications from December 15 to January 15, while the minimum bid price for each license under the terms of the tender is UAH2.7 billion (US$171 million), although the total cost of the conversion of UMTS frequencies from military use – UAH1.6 billion – must be divided equally among the winners and added to the basic license acquisition fee. Under the license conditions, all regional centers of Ukraine must be covered by 3G network services within 18 months from receipt of concession. The government reserves the right to reject applications on the basis of applicants' association with individuals/companies on Ukraine's economic sanctions list (related to Russian-backed separatists in the east of the country), and it should be noted that the law on sanctions could apply to a company post-licensing, resulting in its license being revoked. Ukraine's cellular market leader Kyivstar, owned by Russian-backed Vimpelcom, is currently carrying out a detailed study of the 3G tender conditions, before putting the decision on a potential license bid to its shareholders, its director-general Peter Chernyshov was quoted as saying by Ukrainian News. Second-ranked cellco MTS Ukraine, part of Russia's Mobile TeleSystems (MTS), was similarly quoted in local press as saying it will review the 3G tender, making a detailed study of the tender conditions before it reaches a decision on whether to bid. A spokesperson for third-placed cellco Astelit (Life:)), jointly owned by domestic conglomerate SCM and Turkey's Turkcell, said the company is currently analyzing the situation, and did not issue a conclusive statement on whether it would place a bid, while noting that a high starting price for licenses increases business costs and reduces the overall investment attractiveness of 3G rollout in Ukraine. SCM's subsidiary Ukrtelecom is currently the sole UMTS 2100MHz licensee in Ukraine. It has also been reported that CDMA operator Intertelecom is mulling an UMTS bid. In a related detail, last week the NCCIR cancelled a 'useless' 5MHz unpaired 3G spectrum block belonging to Ukrtelecom, which operates the country's only UMTS mobile network under the TriMob banner with 2×15MHz 2100MHz bandwidth, but the additional nationwide 5MHz allocation had never been utilized. (December 10, 2014) ProIT

Regulator the NCCIR has set December 9, 2014 as the date to launch its 2100MHz 3G license auction, according to the deputy head of the Presidential Administration Dmitry Shimkiv, who named the date on his Facebook social network page. As reported by the same publication, the Cabinet of Ministers approved the terms of the 3G license tender and Prime Minister signed the necessary Cabinet decree. (December 2, 2014) ProIT

United Kingdom

BT has announced a trial of what it calls 'fiber-to-the-basement' broadband network architecture in the City of London to boost internet speeds for hard-to-reach businesses and homes. The trial will see around 50 small-to-medium enterprises (SMEs) based at 65 London Wall and 225 homes in the Middlesex Street Estate offered access to download speeds of up to 80Mbps 'from more than 130 different service providers'. In certain areas there is a lack of physical space for BT to install street fiber cabinets, and the fiber-to-the-basement trial addresses this situation by extending the fiber directly into the building, although BT is differentiating its latest trial local access method from fiber-to-the-building (FTTB) networks. The City of London Corporation has previously said that a lack of affordable superfast broadband in the Square Mile is harming businesses and making the capital's financial centre less attractive to global companies. Joe Garner, CEO of BT's Openreach division, stated: 'City-centre locations present unique challenges when it comes to upgrading consumer broadband. For example, there is less room for us to install a fiber cabinet on the pavement, and it is often harder to get permission to close roads to do the work. We also need to secure permission from multiple landlords to run new cables across their land and properties. That's why we are being innovative with new technology solutions like this one. We are optimistic that this new solution will prove that fibre broadband can be installed into building basements quickly, smoothly and economically.' (December 24, 2014) Techweekeurope

United States

The Federal Communications Commission (FCC) has pushed back its informal deadline for the completion of its review of Comcast's proposed US$45.2 billion purchase of Time Warner Cable (TWC) by three weeks. According to the news agency, FCC officials need time to review in excess of 31,000 supporting documents that TWC has submitted this week. The three-week delay, which will conclude on 12 January, follows a previous 'pause' between October and December as the agency awaited documents and heard objections from video providers over the disclosure of confidential contracts. In an emailed statement to Reuters, TWC spokesman Bobby Amirshahi noted: 'Today's delay is a procedural issue, not a substantive one. We already have provided the FCC more than five million pages of documents and we will continue to provide the FCC everything that they need.' (December 24, 2014) reuters.com

Parts of Minneapolis are receiving 'the world's fastest' internet speeds from fiber-optic broadband provider US Internet as of yesterday. The Minnetonka-based operator is using its network, currently serving around 30,000 homes in southwest Minneapolis, to offer subscribers access to speeds of 10Gbps, around 400 times faster than the average (25Mbps) in Minnesota. Joe Caldwell, co-CEO at US Internet says: 'The fastest internet in the world is going to be here in Minneapolis starting this afternoon ... We're talking about a game-changing speed.' The provider intends to expand the 10Gbps speeds eastwards in mid-2015, with services costing USD399 per month. (December 24, 2014) telegeography.com

Connect America Fund-supported rural broadband rollouts must deliver the same speeds that 99% of urban Americans enjoy, the Federal Communications Commission (FCC) has declared in an order adopted late last week. As such, the FCC has adjusted its 2011-imposed requirement of down/uplink speeds of 4Mbps/1Mbps, raising the download threshold to 10Mbps. With the adoption of this new order, the FCC notes that it is prepared to make offers of support totaling nearly US$1.8 billion annually to a class of larger carriers known as 'price cap carriers' in early 2015, which will potentially help to expand services to more than five million rural Americans. The order also makes changes that will distribute traditional universal service support for small carriers more equitably and curb waste. (December 15, 2014) telegeography.com

US mobile giant Verizon Wireless is in the process of refarming its 1900MHz PCS spectrum for 4G Long Term Evolution (LTE) use. Technology website GigaOm quotes

Mike Haberman, vice president of network operations, as saying that Verizon is initially rolling out LTE technology over its PCS spectrum in ten markets, starting with Manhattan (New York). Although Haberman declined to reveal the other cities in which spectrum will be refarmed, anecdotal evidence suggests that the process is also underway in Cleveland (Ohio). The strategy was always on the cards for Verizon, given that 79% of its data traffic was said to be carried over its LTE network as of 3Q14. Nevertheless, Haberman told GigaOm that Verizon has committed to support EV-DO until at least December 31, 2019. (December 8, 2014) telegeography.com

T-Mobile US has lined up a number of additional 700MHz spectrum deals with regional license holders, Fierce Wireless reports, citing filings made with the Federal Communications Commission. As such, T-Mobile has agreed terms with BEK Communications Cooperative for licenses covering Bismark and Kidder, North Dakota. Meanwhile, the deal with Big Wave Ventures, which is backed by Phoenix-based Smartcomm, covers two A block licenses, one in Wheeling, West Virginia, and one in Lubbock, Texas. Finally, the transaction with Vulcan Wireless includes a concession covering the Seattle-Tacoma-Bremerton area in Washington and the Portland-Salem area in Oregon. T-Mobile agreed to pay Verizon Wireless US$2.37 billion for a substantial package of 700MHz A block spectrum in January 2014, before going on to secure 700MHz spectrum covering a further 18 million people from a number of smaller players. Recent transactions notwithstanding, the cellco presides over 700MHz A block frequencies covering 176 million people, or 55% of the population. These frequencies are said to encompass nine of the top ten metropolitan markets and 22 of the top 30 metro areas. (December 2, 2014) telegeography.com

Venezuela

Venezuelan telecoms watchdog CONATEL announced that it has awarded 4G spectrum to Movilnet, owned by state-telco Cantv, Movistar and DirecTV. The regulator awarded spectrum in both the AWS and 2.5GHz bands. CONATEL's head William Castillo said that some of the country's main cities will have 4G services by mid-2015. CONATEL previously said it expects total investments in 4G infrastructures by public and private telcos in the country to reach some US$ 2 billion within the next five years. Mobile operator Digitel already offers LTE services in Venezuela. (December 3, 2014) telecompaper.com

Zimbabwe

The Postal and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ) has revealed that it is to begin working on a new National Broadband Plan in 2015 in an effort to boost the country's high speed internet sector, as well as the wider economy. The regulator says it will produce a draft plan after studying the development of internet markets around the world, before giving local telcos and internet service providers (ISPs) an opportunity to comment on its proposals. The final plan will then go to parliament for approval. Acting director general of POTRAZ Baxton Sirewu told that the aim of the project is to promote the development of the internet sector through improved network coverage and increased customer take-up. He added that broadband services play a 'vital role' in underpinning the national economy. Zimbabwe was home to just 48,500 fixed broadband subscribers at the end of September 2014, equivalent to a household penetration rate of just 1.5%, a full three percentage points below the regional average. (December 18, 2014) Techzim

The Postal and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ) is advocating network sharing between operators to promote the spread of telecoms networks. The watchdog says infrastructure sharing on an open access model could save operators up to 60% of their capital expenditure, freeing up funds to push towards universal broadband access and more affordable communications services. POTRAZ has published a consultation paper on the use of shared networks, in which it says: 'Infrastructure sharing provides opportunities for significant reduction in investments or capital expenditure,' adding that: 'passive infrastructure sharing can potentially yield overall cost savings as much as between 15% and 30%, with clear cost savings on yearly site capital expenditure of up to 60% [notably due to less investment duplications]'. Zimbabwe is home to three cellular network operators – Econet Wireless, Telecel and state-owned NetOne – while the fixed market is monopolized by NetOne's sister company TelOne. (December 4, 2014) telegeography.com

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▼ WHOLESALE NEWS

Uncertainty rules in New Zealand broadband pricing row

Internet service providers and industry groups are lamenting yet another draft wholesale broadband price ruling by the Commerce Commission, saying that it has added further uncertainty to the market. The regulator released draft decisions for consultation this morning, setting proposed wholesale prices that network operator Chorus can charge for its local copper lines and broadband service. The Commerce Commission set a price of NZ$28.22 a month for its unbundled copper local loop (UCLL), up from the NZ$23.52 set through international benchmarking at the end of 2012. Chorus' unbundled bitstream access (UBA) service was set at NZ$10.17 a month, a small decrease from the NZ$10.92 set at the end of 2013. In total, the wholesale price for the UBA service will therefore be NZ$38.39 a month, compared to $34.44, which was a massive price cut from the $44.98 a month that Chorus has been able to charge for the past few years. Chorus' share price has taken a battering for months since the 2012 and 2013 prices were set. However, the market reacted positively to the prospect of some price relief, sending the company's shares as high as NZ$2.52 this morning from an opening

of NZ$2.14. Others were not so happy. Major retailer Spark said it is undertaking an urgent review of broadband and fixed voice customer pricing following the announcement. "Today's announcement is unexpected and we are now facing costs approximately NZ$60 million a year higher than we previously anticipated. These higher costs will affect all our fixed services, not just broadband services," managing director Simon Moutter commented. Industry group InternetNZ said it was displeased that the announcement didn't provide certainty for the industry, and disappointed the price was higher than those set in 2012 and 2013. In a statement, InternetNZ chief executive Jordan Carter focused on the commission's refusal to take a position on backdating. "We've had a legal opinion that suggests that backdating should not be put in place," he said. "We don't understand why the Commerce Commission didn't take the opportunity to provide certainty when that is what every part of the industry has called out for." Carter said the commission has released a "stack of documentation" and asked organizations to digest that and make comment in a very short time frame. "We're grateful that the commission says that it will consider requests for extensions, and we hope that isn't an idle offer," he said. "From our perspective, it's important that we get this process right, not rushed."

Spark's Moutter said the retailer had been anticipating a NZ$10 reduction in broadband costs for the past two years, and that has been reflected in its pricing. "But what we didn't expect was a NZ$5 increase in the cost for a residential or business line – for both broadband and standalone voice services. All of this comes on top of recently implemented increases in Chorus connection charges for broadband services." Moutter said intense competition meant the anticipated reduction in wholesale broadband charges had already flowed through into retail broadband prices. "Given today's decision, we feel we have no choice but to undertake an urgent review of our current pricing across both voice and broadband plans." Moutter echoed InternetNZ's concern, saying with the possibility of backdating any increase to December 1, 2014, there is considerable uncertainty about when the new charges will take effect. "This means we will need to take a conservative view now to hedge against any financial exposure from the final decision." Moutter said he is not criticizing the regulator, but that the announcement highlighted the challenges retail broadband providers face with a shifting outlook for their underlying costs. "We led an initiative seeking an agreed industry solution for wholesale broadband charges, and we also welcomed the government's attempt to provide this certainty through legislation," he said. Neither has come to pass, and pricing has been guided by the prices the commission set in 2012 and 2013

Opening of China's fixed broadband market may falter without regulated pricing

Beijing's plan to widen private enterprise participation in the mainland's fixed-line broadband market may falter, similar to the liberalization effort in the mobile sector, because entrepreneurs will be hard-pressed to eke out a profit. Under a consultation paper released by the Ministry of Industry and Information Technology last week, qualified private companies will be able to build an access network and source bandwidth capacity from the mainland's three nationwide telecommunications operators so they can resell fixed-line broadband services under their own

brands in 16 cities across the country over a three-year trial period. The draft policy's stated goals are to step up infrastructure development, improve service quality and promote market competition. Its "private ownership" business model slated for trials required more investment and provide higher potential margins, compared with the "cooperative" and "resale" models also suggested in the consultation paper. Industry analysts, however, indicated that the lack of regulated wholesale pricing in the new policy would put participating companies at a disadvantage in negotiations with the large, incumbent broadband network operators like China Telecom and China Unicom. Chris Lane, a senior analyst at Bernstein Research, said in a report on Monday that the private ownership model gives participating companies "an opening to cherry-pick attractive areas – such as new developments where gaining access is easier and cheaper". He added, however that new entrants "typically need to discount heavily to attract users ... this practice puts further pressure on returns". In addition, the incumbent operators are also expected to discount aggressively in those areas where they have to compete against start-up broadband operators. Anand Ramachandran, Barclays' head of telecommunications, internet and media equity research for Asia, excluding Japan, said in a report that since wholesale prices for broadband resources are to be negotiated between the participants and the operators, this could "restrict private enterprises' ability to provide aggressive pricing to end consumers". Both Barclays and Bernstein saw the lack of regulated wholesale pricing resulting in the trials having no meaningful impact against the incumbent broadband operators. That absence would make the trial much like the way private 3G service resellers have had no effect on the incumbent mobile operators. That lesson was learned by the private internet services providers which participated in government-set trials in 2001. Shanghai-traded Dr. Peng Telecom & Media Group, which operates fixed-line broadband services in 53 cities and has 6.2 million subscribers, was "barely earning sufficient returns to justify its cost of capital", Lane said. The firm had 5.8 billion yuan in revenue last year. China Telecom and Unicom have a combined 174.91 million fixed-line broadband subscribers at the end of October. But the mainland's 14 per

cent fixed-line broadband penetration rate at the end of December stayed behind those of developed economies, such as 39 per cent in France and 29 per cent in both the US and Japan

Interconnect Clearing House to provide common mechanism for telecoms companies

The Interconnect Clearing House will provide a common, independent mechanism, to resolve disputes and the settlement of interconnect accounting traffic for all the existing and future Operators in Ghana. Dr. Edward Kofi Omane Boamah, Minister of Communications said, when established in Ghana, the Interconnect Clearing House would, for instance, help to resolve disputes such as was made to his office by MTN against Expresso for transiting and terminating international traffic, using masked or blank Caller Line Identification (CLI) on its network. He said Cabinet has already approved the policy for the implementation of the Interconnect Clearing House, and that consultations had already been held with stakeholders, including the telecom service providers. Dr. Omane Boamah made these remarks on Wednesday in Accra in a speech read on his behalf by Mr Issah Yahaya, Chief Director of the Ministry, during a public forum on Interconnect Clearing House System in Ghana, organized by the National Communications Authority (NCA). He said government has taken policy decisions as part of regulatory enhancements, to improve telecommunications oversight in Ghana, which include the establishment of Interconnect Clearing House License system for regulation of telecommunications. The rest are the introduction of International Wholesale Carrier License, the implementation of Unified Access Service License and Renewal of Mobile Telecom licenses, and the introduction of Mobile Network Operations License. He said the Communications sector in Ghana had witnessed tremendous improvements since its liberalization and reforms undertaken in the middle nineteen-nineties. Dr. Omane Boamah observed that Ghana is recognized by the International Telecommunication Union (ITU) as one of most dynamic ICT countries in the world. He said this was in recognition of a supportive enabling environment for investment relying on a forward-looking national ICT for development policy, pro-business, telecommunications regulatory

regime, abundance of broadband capacity, Applications technology, and the increasing deployment of Value Added Services. He said modern telecommunications and technology development are key instruments in the transformation of the country, and the expansion of the national economy to achieve a lower middle income status. The Minister said substantial investments in terrestrial optic fiber infrastructure, the introduction of LTE Four Generation technology, and the competition in the submarine optic fiber cable infrastructure market, have ensured widespread availability of broadband and massive bandwidth for data transmission and adequate capacity for internet connectivity. He said the country possesses 12.3 Terabits capacity for international connectivity, nearly a quarter of the sub-region's total capacity. He noted that with the fast pace of technological developments in the industry, especially in the era of convergence, it was now possible for the same medium to be employed for the transmission of both voice and data, for which reason communications regulations require periodic review to cover the deployment of Next Generation Network (NGN) infrastructure. "The strategic nature of communications technology requires transparency and accountability form service providers that will respond to the sovereign interests of the countries in which they operate," the Minister stated. "Times are changing and we in Ghana will change with the times. Let us be reminded that the provisions of the World Conference on International Telecommunications 2012 come into effect next year and this will also affect the operation of telecom services." He said its provisions on International mobile roaming require increased transparency in international mobile roaming charges, and to foster competition, which should benefit consumers. "In fostering an enabling environment for the greater growth of the Internet, it discourages unsolicited bulk electronic communications (spam), and calls on countries to take measures to prevent its propagation. "More important are the Provisions to deal with misuse of numbering resources: 'Member States shall endeavor to ensure that international calling line identification (CLI) information is provided taking into account the relevant ITU-T Recommendations. "In this respect, it is appropriate for Ghana to introduce the policy guidelines such as the issuance of the Interconnect Clearing House License," he said. Mr. Ikechukwu Nnamani, President and Chief Executive Officer of Medallion Communications, Nigeria, which provides interconnect exchange clearinghouse services,

urged the NCA to be involved in the implementation of the Interconnect Clearing House System in Ghana. The NCA will start implementing the Interconnect Clearing House in Ghana by June, 2015, and all telecos are required to comply with it.

Liquid Telecom expects first Zimbabwe fiber resellers to launch in January

Liquid Telecom this week said it expects the first wholesale customers of its 100 Mbps fiber-to-the-home (FTTH) network in Zimbabwe to begin offering services to end users in January. Liquid Telecom, which offers wholesale and retail network services across Africa, acquired Zimbabwean fiber operator ZOL in 2012. ZOL is currently the only retail ISP selling consumer broadband services on the fiber network; however, Liquid Telecom said the situation will change next year. "We are in discussions with two" ISPs, said David Eurin, group commercial strategy director at Liquid Telecom, at the Total Telecom Festival in London on Tuesday. He said the unnamed service providers "have the back office systems up and running... January should see them begin reselling services." Elsewhere, Liquid Telecom's FTTH network in Zambia is in a test phase and will soon be ready to offer commercial services. In Kenya, Liquid Telecom's fiber deployment is concentrated on multi-dwelling units because the market is much more competitive. "In Kenya we have a very, very focused approach," Eurin noted. "Each market is different...it is almost impossible to copy and paste in Africa." Liquid Telecom also plans to launch an FTTH network in Rwanda in the second quarter of 2015 as well as in another two countries at some point next year.

Syniverse and VIVA expand roaming agreement in Bahrain

VIVA Bahrain has signed an agreement with Syniverse to bring its customers a selection of new, highly-customizable data roaming packages. With this innovative service, pre- and post-paid users will enjoy a hassle-free roaming experience. The solution suite, which includes Syniverse's Data Roaming Packs and Bill Shock Prevention, is designed to give the

subscriber control over their data roaming options, greater insight into their roaming usage and the ability to maintain roaming costs. Saad Odeh, VIVA Bahrain Chief Wholesale and Enterprise Officer, said: "VIVA, in collaboration with Syniverse, allows customers to control their data usage while travelling abroad. The service offers different controlled packages in selected countries that fit the specific needs of individuals. Additionally, it allows customers to manage their costs and avoid 'bill shock' by alerting them via text message when they reach specific amounts of spending." High rates of smart phone penetration, alongside highly competitive pricing structures, have created a dynamic market in the Middle East. The region's smart phone penetration is projected to grow nearly 40% by 2015, which will help MENA take the lead as the second-largest mobile phone population of any region in the world, according to eMarketer's latest Global Media Intelligence Report. "Voice and messaging services have long been must-haves for mobile users, and today, data services are equally vital," said Nour Al Atassi, Regional Vice President and Managing Director, Middle East and Africa, Syniverse.

Danish watchdog publishes final LRAIC model for fixed networks

Telecoms watchdog the Danish Business Authority (Erhvervsstyrelsen) has published its final decision with regards to the Long-Run Average Incremental Cost (LRAIC) model for fixed networks used to determine LRAIC based costs for certain (wholesale) access and interconnection services in Denmark for the period between 1 January 2015 and 31 December 2015. Under the final decision, wholesale prices of fixed line broadband will be reduced for the aforementioned period, in order to 'give companies an even better opportunity to offer cheaper broadband services for the benefit of their customers.' Helle Bojen Larsen, Head of Division at the Erhvervsstyrelsen, said: 'The Danish LRAIC model is developed in accordance with the latest European Commission (EC) guidelines. One of the pillars is to ensure the right balance between competition and investment. The Danish Business Authority believes that the new, lower wholesale prices provide increased

opportunities for competition in the Danish market, without having investment opportunities weakened.

EC urges Germany to withdraw or amend FTR proposal

Following an in-depth investigation, the European Commission (EC) has concluded that the approach of the German telecoms regulator, the Federal Network Agency (FNA, also known as Bundesnetzagentur or BNetzA), for the calculation of fixed termination rates (FTRs) does not follow the European Union (EU) recommended approach and leads to competition and consumer harm. According to the FNA, FTRs for alternative fixed operators will be based on the previously applied methodology for incumbent operator Telekom Deutschland (TD), but the EC says that, if adopted, the new rates in Germany would be over 200% higher than in member states that follow the EC's recommendation. Brussels says it now requires the FNA to withdraw its proposal or to amend it in order to bring it in line with the EC's guidelines. In its proposal, the FNA defined FTRs that should apply retrospectively as of December 1, 2012 until November 30, 2014. In April 2013 the EC criticized the German regulator's method for calculating FTRs for TD and in August 2013 issued a recommendation directing the FNA to amend or withdraw the proposal. However, the German watchdog did not follow the recommended guidelines, and now intends to set FTRs for the remaining operators following the same approach it applied for TD.

Supreme Court rejects stay on TDSAT 3G roaming decision

India's Supreme Court has declined to stay a ruling by the Telecom Dispute Settlement Appellate Tribunal (TDSAT) permitting the employment of 3G roaming pacts, Live Mint writes. The Department of Telecommunications (DoT) is looking to block a TDSAT ruling from April this year which overturned the DoT's ban on 3G roaming and quashed fines levied by the regulator on Bharti Airtel, Idea Cellular and Vodafone India for offering 3G services outside of their licensed areas through agreements with other cellcos. Whilst awaiting a full decision on the case, the DoT had also sought a stay on the TDSAT decision, which would prevent operators from making use of 3G roaming whilst the matter is settled. According to TeleGeography's GlobalComms Database, the matter has been back and forth through India's byzantine court and regulatory systems since the end of 2011. Prior to the sale of the 3G concessions, the regulator had told prospective bidders that they would be allowed to offer services in circles where they did not hold concessions via agreements with other cellcos. In December 2011 however, the DoT reneged on its promise and banned the practice and issued fines totaling around INR12 billion (USD189.4 million).

UK mobile operators avoid national roaming with £5bn pledge to stamp out not-spots

Service providers agree to provide voice, SMS coverage to 90% of the country by 2017. The U.K. government struck a deal on Thursday that will see the country's four mobile operators jointly spend £5 billion to eliminate so-called 'not-spots' by 2017. EE, O2, Vodafone and 3UK have agreed to guarantee voice and SMS coverage

to 90% of the U.K.'s geographic area, thereby halving the number of partial not-spots and reducing complete not-spots by two thirds. The deal will amend their license conditions and is therefore legally binding and enforceable by regulator OFCOM. "Too many parts of the U.K. regularly suffer from poor mobile coverage leaving them unable to make calls or send texts," said culture secretary Sajid Javid, in a statement. "Government and businesses have been clear about the importance of mobile connectivity, and improved coverage, so this legally binding agreement will give the U.K. the world-class mobile phone coverage it needs and deserves," he said. By accepting new coverage obligations, EE, O2, Vodafone and 3 have avoided the possibility of being forced to establish national roaming agreements with one another, an idea proposed by the government in November that was unpopular with the operators. "A partnership between government and the mobile operators is required to maximize coverage across the U.K., so this agreement is a good outcome for our customers," said O2 COO Derek McManus. "It will support investment in our network, while ensuring that strong competition remains between the different networks." EE, Vodafone and 3UK expressed similar sentiments. "The £5 billion investment from the mobile networks in the U.K.'s infrastructure will help drive this government's long-term economic plan," said Javid.

Tele2 Deploys 4G LTE Network in Tula Region; Launches Roaming in Puerto Rico and Paraguay

Sweden-based operator Tele2 has commercially launched its 4G network in the Tula Region, Russia on the 1800 MHz frequencies using its own 2G infrastructure. This marks a major shift from its earlier launches of 3G services in St. Petersburg, Novosibirsk, Chelyabinsk, which were based on Tele2 and Rostelecom integrated networks. In a separate news, Tele2 is launching roaming services in Puerto Rico and Paraguay in partnership with Claro Networks, allowing its subscribers to use mobile Internet and automatic voice roaming at cost-efficient prices – 65 rubles per minute for incoming and outgoing calls and 12 rubles for SMS and MMS. Tele2 customers roaming to these countries will receive quick updates on expenses and account balances. Tele2 has also enabled mobile Internet roaming in these two countries - priced at 50 rubles per 1 megabyte. Tele2 said that favorable prices will enable its subscribers to continue using data

the way they are used to - whether they are accessing the social media, communicating via the instant messaging service, reading emails or browsing the Internet. Ealier this month, the service provider has launched mobile data and voice roaming in Slovakia via partnership with O2.

Bell adds AT&T LTE to its US roaming repertoire

Bell has added AT&T LTE to its roaming repertoire. The second-biggest US carrier famously worked out a reciprocal LTE roaming agreement with Rogers late last year, and it appears that Bell has worked out a similar deal. According to Bell's updated US roaming site, AT&T service can now be accessed on Band 4 and Band 17 LTE, meaning both AWS and 700MHz-supported phones will find a signal. T-Mobile is also a partner, offering AWS-based 3G. Bell still doesn't have the best prices for US roaming, matching TELUS's new plans but not quite competing with Rogers' Roam Like Home deal, but it's great to know that it has a leg up on TELUS in the speed department.

Bell And AT&T LTE Join Up To Offer Bell Roaming In The U.S.

When two neighboring countries are on the same continent, like the U.S. and Canada, the citizens generally do a lot of traveling back and forth between the countries. Many have relatives, friends or even conducting business that requires travel. Before the day of cellphones, it was no

big deal – you drive or fly to your destination and when it came to communicating, you picked up a landline and made your long distance of collect call. The only thing that 'roamed' back then were the buffalo on the western plains. With the advancement of the Smartphone, many landlines are disappearing – we haven't had a landline in years... like we need another $40 a month bill. We take our cellphone with us everywhere and use it as our only means of communication. However, cellphones need towers for our signals and if you stray too far from your home area, there is a nasty roaming charge attached to your next bill. Roaming rates are generally very high when compared to the normal rates – the Quebec City Mayor Regis Labeaume just recently ran up a $20,000 bill due to roaming charges while in 'Rome' (yes, I see the irony) and another $2,106 bill using his tablet in the U.S. The carriers try to sign agreements with other carriers to allow their subscribers to 'roam' on the other network – they try to work out a deal to reduce costs. Even the Canadian Government has passed new laws that limit the amount that carriers within Canada can charge each other. However, once you leave the country, those laws no longer apply. AT&T in the U.S. seems to be on the forefront of setting up agreements with our Canadian brethren – last year at this time they firmed up and agreement with Rogers and just recently, they have struck a deal with Bell. If you go to Bell's updated U.S. roaming rates, on Band 4 and Band 17 LTE, AT&T service can now be accessed... meaning that both AWS and 700Mhz supported devices will be able to find a signal. A partnering agreement with T-Mobile is offering AWS-based 3G as well. The prices are not the lowest by any means, but come close to TELUS'. Rogers' "Roam Like

Home" still seems to be the best deal. It is also good to know that Bell now has the better speed than TELUS.

Vodafone suspends data roaming in Dubai, Abu Dhabi, UAE

Vodafone Australia customers will no longer be able to use Smartphone data roaming in the United Arab Emirates from January 1, 2015, leaving many travelers disconnected in the popular destinations and stop-over cities of Abu Dhabi and Dubai. Although voice and text messaging services will still be available, Vodafone will disable data roaming across the UAE "due to a change in the arrangements with our roaming partners," a spokesperson for the

carrier told Australian Business Traveler. Vodafone's current contract with UAE mobile network operators expires at the end of 2014 and the company has yet to settle on the terms and costs of new contracts. "We apologize for this inconvenience and recommend customers use available wi-fi services from their devices" the spokesperson said. There's no estimate as to when Vodafone data roaming will resume in the UAE. Qantas' partner Emirates routes all flights through its home hub of Dubai, while Virgin Australia partner and stakeholder Etihad Airways calls Abu Dhabi home. The UAE has yet to join Vodafone's growing roster of countries on its $5/day roaming scheme, so prices are set at $1/minute to make and receive phone calls and 75c to send an SMS message (receiving texts is free).

Unscrambling Big Data

The seemingly infinite amount of internal and external information available to companies can easily lead to analysis paralysis. Companies can search through large data sets, but can end up with few insights that are useful for identifying growth opportunities. Instead, by using digital visualization techniques to transform the mass of customer data into small micro-segments, companies can produce offerings tailored for individuals, using the most effective channel to reach that particular person.

Hicham Fadel
Principal
Strategy&

Customers will be more likely to respond positively to these approaches, with growth resulting from the pooled profitability of each micro-segment. From the company's perspective, it enables investment on marketing campaigns to be channeled productively, and helps to increase customer "stickiness" and loyalty.

In the past, segmentation for marketing purposes has been based on broad demographic criteria, such as age, gender, income and education. The huge expansion of data at companies' disposal makes it possible for this demographic material to be supplemented by numerous other factors which differentiate one customer from another in their needs and preferences. For example, we can determine which days and time an individual is more likely to be active online, which websites he habitually visits, his product preferences, and the frequency of using smartphones to make purchases.

Data visualization facilitates microsegmentation. By experimenting with a multitude of variables, discrete and homogeneous micro-segments start to emerge in vivid graphic form out of the plethora of data. Marketers can actually see niche groups comprising customers with a very similar demographic and behavioural profile.

Companies can then build or tweak products for the relevant micro-segment. This distilled data can also be used to identify exactly how to convey offerings to the micro-segment so that the chances of a successful sale are maximized. For example, if such customers tend to visit a particular sports site just after their favorite team has played, a well-placed and well-timed advert on that site may reap dividends.

The telecom industry offers one example of a sector which can benefit greatly from micro-segmentation. In many emerging markets, the industry has reached saturation point. Poring through crudely segmented data is costly and inefficient because excessive attention is paid to the many customers now generating little return, with insufficient focus on those offering the likeliest prospect of growth. By adopting a micro-segmentation process, companies can locate specific demand with more precision and speed. For example, if a niche group of customers in the United Arab Emirates are frequently sending texts to friends in Oman, the mobile phone operator can detect their behavior and offer an additional service with discounted international rates to Oman. If another micro-segment is downloading its favorite shows on tablets, the mobile operator can suggest an additional service to improve viewing quality and speed of download.

The revenue impact of this targeted formula can be dramatic. By 2011, Turkcell, the largest mobile operator in Turkey, had been confronting a continual fall in customer retention, and flattening subscription growth. In response, the company introduced an initiative which presented a new real-time view of the data from all its 34 million customers. Turkcell started to offer them the right product at the right time, based on their individual needs and preferences.

This solution resulted in the marketing cycle time being drastically reduced, and in an increase of approximately US$15 million in gross revenue in 2011. By breaking down the mass of amorphous information into homogeneous chunks in this way, companies can wrest control of the data environment for their own strategic benefit, rather than allow themselves to be intimidated and paralyzed by it.

▼ TECHNOLOGY NEWS

TECHNOLOGY UPDATES

It's cheaper to roam on Cloud 9

Irish regulator ComReg has decided operators should start allowing their subscribers to access discount roaming companies' services without paying a set-up fee. UK-based roaming provider Cloud 9, which claims to offer services 'on one easy affordable SIM card,' reportedly contested set-up fees and recurring monthly costs charged by operators Eircom and Vodafone Ireland, instigating a dispute where the latter two argued that without these charges they would have no guarantee of regular income from roaming services. ComReg has ruled that European law requires operators to allow third party network access free of charge and that set-up fees are 'not permissible,' thus declaring Cloud 9 will not be expected to pay most of the charges.

IBM and Ericsson Collaborate on 5G Antenna Designs

Ericsson and IBM have announced collaboration to jointly research phased array antenna designs for 5G, allowing networks to provide customers with data speeds orders of magnitude faster than what is available currently. Ericsson and IBM said that they will research phased-array antenna techniques to develop prototype systems that will serve more mobile users, enable a multitude of new services on the same frequency, as well as offer data speeds that are orders of magnitude faster than today - competitive to existing cable and wired internet access speeds. The phased-array design allows for more directional antennas that are electrically-steerable and will have significant weight and flexibility advantages over existing mechanical antennas. The outcome of these technological advances will integrate on the order of a hundred antennas and radios on a single chip smaller than a credit card in size, greatly facilitating the use of these technologies for high-capacity small cells in indoor spaces and dense downtown areas. Dr. Mehmet Soyuer, Manager of the Communication and Computation Subsystems Department, IBM Research says: "We have accumulated over 10 years of experience in developing radio frequency (RF) integrated circuit and packaging solutions, demonstrating highly integrated phased arrays for various applications. We look forward to collaborating with Ericsson to help shape the future of mobile communications."

Huawei releases a new octa-core Kirin 620 chipset

Huawei has introduced a new addition to its own processor family. The Huawei Kirin 620 system-on-a-chip is definitely not a top of the line chipset, but is nonetheless

a solid performer, designed for mid-ranged devices. The CPU has a 64-bit architecture and comes with 8 cores, clocked at 1.2GHz. It is a 28nm chip, based on the Cortex-A53 with LPDDR3 RAM support. As far as connectivity goes, it will offer GSM / TD-SCDMA / WCDMA / TD-LTE /LTE FDD support, as well as Cat. 4 LTE for speeds up to 150Mbps. The GPU used is a Mali450 MP4, which is a little dated. Camera support is limited to a 13MP sensor, while video encoding and decoding capabilities can handle up to 1080p resolutions at 30Hz. All in all, Huawei's new Kirin 620 is set to be a fairly mid-level SoC, with performance comparable to that of Qualcomm's Snapdragon 410. Both are 64-bit chips with a clock speed of 1.2GHz, but the Kirin 620 has the advantage of having 8 cores. Not that this necessarily translates to better real world performance, especially in an Android handset, but one would assume so. The Mali 450 GPU could potentially be a drawback in the long run, but for the time being, Huawei seems to have a solid market share contender.

ITU approves super speed G.fast 1Gbps broadband standard

A new broadband standard called G.fast that could provide speeds as high as 1Gbps has been approved by the International Telecommunications Union (ITU). The standard provides far faster speeds over the final distance of copper that connects a home or business to the wider broadband network. This means that the speed on the main fiber network is maintained all the way to the final connection, rather than dropping off as currently happens. ITU Secretary General Hamadoun Touré explained that the approval of the standard paves the way for vastly improved broadband services. "The time from G.fast's approval to its implementation looks set to be the fastest of any access technology in recent memory," he said. "A range of vendors has begun shipping G.fast silicon and equipment, and service providers' lab and field trials are well underway." However, while the standard has now been approved, it is likely to be at least a year before the services become mainstream. The Broadband Forum will now host a test suite and certification program for G.fast systems so that communication providers can test kit

for interoperability and performance. A beta trial of the certification program is planned for the middle of next year which should mean certified G.fast deployments by the end of 2015. BT has already touted its work using G.fast. Trials at its Adastral Park research lab in Ipswich showed speeds of 786Mbps over a 19m piece of copper and uploads of 231Mbps. Over a longer 66m copper connection, tests achieved downloads of 696Mbps and uploads of 200Mbps. The 66m results are particularly notable as this is the average length of a copper connection between a premise and the BT network, so there is significant potential for G.fast to boost broadband connections around the UK. In a statement sent to V3, BT said it welcomed the news that the standard had been approved, and said it work closely with those developing kit to see how it could fit into their commercial deployments. "We expect fully standardized commercial kit to be available from the vendors over the next year, and we will then need to trial it," it said in a statement. "We have made no decisions about the deployment of G.FAST technology yet, but we see it as a very promising technology with significant potential – that's why we're putting some of our best minds on the case to assess it fully."

Russian research firm tests the living daylights out of 4G

Russia-based research firm TDaily says it has conducted the first fully independent study into the quality of Long Term Evolution (LTE) mobile data services provided by the so-called 'Big Three' – Vimplecom (Beeline), MegaFon and Mobile TeleSystems (MTS) – using methodology proposed by market regulator Roskomnadzor and approved by the Ministry of Communications (MinSvyaz). In a two-month study carried out in November and December, the agency investigated 4G mobile internet access in 15 cities with a population of more than one million, to identify the strengths and weaknesses of the trio in terms of the quality of their services and coverage area. TDaily found that in the cities studied, MegaFon performed best – in terms of 4G data rates – in eight of them, ahead of Vimpelcom (four) and MTS (three). It noted that the three mobile network operators (MNOs)

are actively engaged in building out their 4G LTE infrastructure and in the last quarter, rolled out almost 6,000 new base stations in Russia between them taking the total to 27,500 by end-September (5,815 BTS: 3Q13, 842 BTS: 3Q12). In terms of distribution, MegaFon had deployed a total of 11,500 LTE-enabled BTS at end-September, compared to 10,900 for MTS and just 5,100 for Vimpelcom. Meanwhile, the study found that as of 1 December this year, the three MNOs had rolled out 4G services to 77 license regions across the Russian Federation, of which only 13 were served by just one of the big three, namely: Belgorod region, Voronezh region, Transbaikalia, the Jewish Autonomous Region, Kurgan region, Kabardino-Balkaria, Udmurtia, Komi, Karelia, Kostroma, Krasnodar region, Tula and Ulyanovsk region. Finally, the firm confirmed that four regions – Kamchatka, Magadan, Norilsk and Chukotka – are currently without 4G.

ITU launches Ebola-Info-Sharing mobile app

ITU has launched a free mobile Application to be used in the campaign against the Ebola disease outbreak. The "Ebola-Info-Sharing" mobile App facilitates coordination among organisations responding to the Ebola crisis and offers the general public access to the latest Ebola news from official sources, including an interactive map on Ebola. "Information and communication technologies are now critical components of emergency telecommunications not only when natural disasters strike, but also during epidemics such as the Ebola disease outbreak," said ITU Secretary-General Hamadoun I. Touré. "The "Ebola-Info-Sharing" App not only, according to ITU, enhances prevention, diagnosis, treatment and monitoring of diseases but also strengthens healthcare systems through improvements in emergency response, healthcare practitioner support, healthcare surveillance and administration." Brahima Sanou, Director of ITU's Telecommunication Development Bureau stated that: "With such unprecedented computing power in the palm of our hands it is imperative that we harness mobile technology to serve humanity and especially in combating epidemics. Partnerships are key to the success of a collective global response to fight epidemics like

Ebola." The App is currently available for Android mobile devices and will soon be available for iOS devices.

Qualcomm Upgrades Smartphone Chips to Support 450Mbps Download Speeds

Qualcomm announced that its Snapdragon 810 processor will add support for LTE Category 9 Carrier Aggregation connectivity. The Snapdragon 810 processor with

integrated next generation LTE-A modem has demonstrated download speeds of up to 450 Mbps over three 20MHz LTE carriers, becoming the first Snapdragon processor to support Category 9 Carrier Aggregation. The newly announced Category 9 support makes the Snapdragon 810 processor the first Qualcomm premium-tier processor to feature a fully-integrated 64-bit multicore CPU and LTE-A multimode modem to support up to 3x20MHz Category 9 Carrier Aggregation, as well as aggregation across FDD and TDD carriers. The Snapdragon 810 processor with Category 9 support is anticipated to be available to our customers in early 2015. Category 9 capabilities have been validated with Snapdragon 810 processor-based tests conducted with multiple commercial network and test equipment companies, as well as an over-the-air demonstration in a commercial network environment. Utilizing devices powered by the Snapdragon 810 processor, each test successfully demonstrated the support of 3x Carrier Aggregation with three LTE component carriers, each with a bandwidth of up to 20 MHz, allowing for Category 9 peak data rates of up to 450 Mbps in the downlink. "Qualcomm Technologies continues to be a leader in the mobile

industry with commercialization of the world's leading modem technology, delivering fast and reliable cellular data connectivity solutions. This provides speedy application performance and feature richness across greater coverage areas enabled by LTE Category 9 connectivity," said Alex Katouzian, senior vice president of product management, Qualcomm Technologies, Inc. "With powerful processors like the Snapdragon 810, we look forward to continuing to drive LTE innovation in the high tier to ensure exceptional user experiences as mobile broadband demand grows."

BT uses 'fiber to the basement' broadband deployments for inner city speed boosts

BT has announced the successful trial of a new form of fiber broadband deployment that could solve the problems involved in getting faster services to inner city areas. BT has been criticized in the past for not providing high speed services to businesses in the City of London area. This is owing to the problems presented by deployments in inner city areas, as Openreach CEO Joe Garner explained. "City-centre locations present unique challenges when it comes to upgrading consumer broadband," he said. "For example, there is less room for us to install a fiber cabinet on the pavement, and it is often harder to get permission to close roads to do the work. "We also need to secure permission from multiple landlords to run new cables across their land and properties." However, BT has trialed a new system called 'fiber to the basement' that directly integrates fiber broadband kit into the basement of a building, rather than requiring access to street furniture. BT has used this method to boost services to 225 homes in the Middlesex Street Estate

and around 50 SMEs based at 65 London Wall. This will bring speeds of 80Mbps, compared with previous speeds of up to 20Mbps. Garner said that this could prove a viable solution to the problems that have hindered such rollouts "We are optimistic that this new solution will prove that fiber broadband can be installed into building basements quickly, smoothly and economically," he said. "It could also have the added benefit of being less disruptive for our customers and the general public." The rollout comes amid a period of intense activity at BT as it brings fiber services to some of the most remote areas of the UK. The company is also in the process of negotiating the acquisition of mobile operator EE for £12.5bn.

Qualcomm To Introduce LTE Category 9 With Snapdragon 810

Qualcomm announced that it has finalized testing of LTE Category 9, with the Snapdragon 810 set to be the first SoC to offer the modem. The chipset also comes with an eight-core 64-bit CPU and will be featured in high-end devices next year. With LTE Category 9, customers can expect download speeds of 410 Mbit/sec, which is achieved through Carrier Aggregation. The technology involves combining different spectrums to provide more bandwidth. Qualcomm has been testing the new modem with carrier EE, which was able to deliver the bandwidth by combining a 20MHz channel of 1800MHz spectrum with another 20MHz of 2.6GHz, followed by a third 15MHz channel of 2.6GHz . The major advantages touted by Qualcomm with the new modem are increased reliability and higher bandwidth, and while LTE Category 9 does come with a theoretical limit of 410 Mbit/sec, it would be difficult for users (at least in the next year or so) to reach anywhere near that figure in real-world testing conditions. While Qualcomm is facing an increased pressure from the likes of MediaTek (TPE:2454) in the LTE segment, it still enjoys a majority of the market share when it comes to baseband modems. As for when LTE Category 9 enabled devices will be available to customers, it is possible that we'll see the official announcements at the Mobile World Congress in February, followed by a launch sometime in the early second quarter of 2015.

Next Generation Leaders

Few global markets are more exciting for telecom providers than those of the Middle East and North Africa. With minimal legacy infrastructure, pockets of low current-user penetration, and one of the world's youngest populations, the region is ripe with early-adopters who are eager to engage and help drive telecom use to the next level. The region's recent telecom industry growth statistics fully demonstrate this significant expansion and ongoing opportunity.

And yet, increasing competition, regulatory involvement, and other marketplace factors are now ratcheting up the pressure on revenue and margins for telecom companies in this important region. In order to fully capitalize upon the region's opportunities, telecom companies will need to broaden offerings, identify relevant new technologies, and step across traditional industry silos both in terms of products and services as well as leadership talent.

The next generation of telecom leadership in the Middle East and North Africa will include those executives who are able to move beyond the traditional operator-oriented mindset and help to drive new solutions-oriented businesses and services that optimize the consumer experience. These leadership teams will require global levels of expertise as well as a close familiarity with local consumer habits and business demands. These leadership teams will also need to respond appropriately to talent localization trends in the region.

CTPartners offers the global reach as well as the local connections and marketplace insights to effectively partner with regional telecom operators in order to meet these potentially transformative leadership challenges and fully capitalize upon unfolding opportunities.

Lilian Poilpot
Partner and Head
CTPartners Technology

Robert Wilder
Managing Partner
CTPartners Technology

The Market Landscape

The growth of mobile telecom across the Middle East and North Africa represents one of the fastest growing telecom regions in the world. According to trade group GSMA, between 2008 and 2013, the number of unique subscribers in the region grew at a compound annual growth rate of 9.5%. That compares to a global growth rate of 8.2%.

During that same time period, the number of connections—as measured by SIM cards—grew at 13.2% in the MENA region. Perhaps most promisingly in the context of budding opportunity for new data and other services, the number of 3G and 4G connections grew at a compound annual growth rate of 65% during those years. Bringing such capability to a region in which half the population is under the age of 25 would seem to indicate vast opportunity for rapid and continuing growth.

While it is true that the Middle East and North Africa can represent two very different markets for telecom operators, they each present exceptional business opportunities. The oil-rich nations of Qatar and the UAE, for instance, have been among the world's fastest adopters of smartphones, with smartphone connections representing some 80% of total mobile connections in those countries, putting them ahead of leading digital markets such as those in Scandinavia and the U.S. And yet, it is forecast that by 2019, North Africa will have in place a larger proportion of high-speed connections than the GCC and Levant.

With more smartphones and better connections available, the MENA region is expected to see data traffic grow some 70% annually between 2013 and 2018. That will outstrip the growth in every other global region. Along with the rapid growth and transformation in the MENA telecom sector, invariably there are challenges, and strong leadership will be required to meet these challenges. Competition is rising in the region, including from mobile virtual network operators responding to demand for more cost-effective mobile access. Regulation and taxation of services is generally on the rise. And the small size of most countries in the region leads to a fairly fragmented marketplace. In the region, only Egypt, Iraq, and Saudi Arabia currently boast more than 20 million subscribers, so effectively reaching scale in new products can be a challenge for operators in the smallest markets with only a few million subscribers or less.

The Road Ahead

Telecom operators in the region also face the same challenge their peers face globally. New products and services will be required both to maintain profit margins and to meet expanding consumer expectations and demands.

More devices—including more powerful devices—in the hands of consumers, along with better network coverage, can reliably be expected to generate greater consumer demand for cleanly functioning data management products, social media services, entertainment options, m-commerce capabilities, security safeguards, and more. Not ignoring the opportunities in the business marketplace, operators also are further developing enterprise and business services in parallel with consumer services. Today, the applications and services that a telecom operator offers or a mobile device can run become paramount in defining a competitive edge. Telecom operators need the next-generation leaders who are capable of strategically guiding their companies to those next-generation product offerings.

One growth area that is of particular importance in the region is mobile payment systems. While the specific needs can vary between developed and developing marketplaces, strong mobile money systems can further enable and simplify digital commerce and even micro-financing. Kenyan-founded M-Pesa provides just one example of the positive impact of mobile money transfer programs. These services are especially important in countries where a large portion of the population does not have a bank account or even proximity to a bank. As an example, only 32% of Tunisia's population has a bank account, and just 10% of Egyptians have a bank account, according to World Bank data. Currently, consumers in most parts of the MENA region have access to at least one mobile payment service, but regulatory restrictions and the inability of many money systems to interact smoothly remain as impediments to growth.

In more remote or less populous communities in the region, mobile's ability to entertain also provides significant opportunity for telecom providers. There are more than 55 million Facebook subscribers in MENA, with 28 million logging on daily, usually from a mobile device. The MENA region is also the world's second-most active viewer of YouTube videos, with Saudi Arabia figuring as the world's largest viewer, with 90 million videos viewed each day, more than half of which are viewed on a mobile device. Maximizing functionality in this space is critical.

Mobile capabilities also can play an important role in the region in expanding educational offerings, providing outreach to women, facilitating disaster response, and improving healthcare options. Among others, Summer Nasief, who leads IBM's healthcare business in Saudi Arabia, has pointed to the potential power of connectivity for regional healthcare. Of course, mobile connectivity and

social media have clearly proven their political capabilities in the region as well.

The New Leadership Paradigm
Seizing the significant opportunity at hand in the Middle East and North Africa will require telecom leadership with broadened areas of expertise and strategic vision. In a business sector that has traditionally been reluctant to bring leaders from outside the telecom world into the fold, disruptive technologies and new business opportunities now demand that telecom operators add executives with digital, security, marketing, content, and other areas of expertise to the senior team.

At the same time, telecom operators must respond to national trends to localize talent teams, so leading the development of rising local leaders also must be a top priority. With knowledge of global best practices coupled with on-the-ground understanding of local business issues and the resident talent pool, CTPartners is a key ally when building a winning executive team in the MENA telecom sector.

Many of the new business opportunities—and therefore leadership needs—for telecom operators will be defined by the convergence of social media, mobility, and the cloud, all working in service of the consumer. With social media's large community, empowered by mobility and the reliable and quick user experience offered by the cloud, telecom operators have the opportunity to identify and meet new consumer needs with tailored, value-added services that differentiate the telecom operator in the marketplace. These demands put a premium on leaders with a consumer-centric and solutions-oriented mindset.

Central among the broadened leadership teams exploring these new products and services for consumers as well as regional businesses will be digital and data management experts. To develop products that can win market share from competitors in the burgeoning area of big data and analytics will most likely require leaders who cut their teeth outside the telecom sector, perhaps at an advertising agency, software business, or web-based start-up. Cybersecurity expertise is also a must-have for telecom operators today.

To respond to the demand for affordability from mobile subscribers and to bring the discipline of continuous-improvement engineering to the leadership team, telecom operators might look among manufacturing executives, especially those from industries that have long battled extreme cost sensitivity.

Marketing experts with insight on consumer sentiments and the ability to win the hearts and minds of those consumers when designing and presenting new products and services will be integral to the next-generation telecom leadership team. These marketing leaders, with their greater proximity to customers, are also likely to come from outside the telecom sector, perhaps from sectors that traditionally highly value customer-facing skills such as fast-moving consumer goods, retailers, or hospitality businesses.

Meanwhile, the ability to generate local content that will keep consumers actively engaged on this robust network should not be overlooked by telecom operators. This includes content that appeals to local sensibilities in the local language. Telecom operators might be well-advised to pursue business development leaders who can help foster joint ventures or other alliances with regional content providers to meet this need.

To pull together the diverse expertise required for this broader, next-generation telecom leadership team, companies will need to draw executive talent from many sources, including other business sectors, and most likely from other global regions. An executive search partner such as CTPartners, with sector and functional specialists based around the globe, will be an invaluable partner in identifying and recruiting the right talent for these leadership roles. Expatriate executives can bring specialized skills and global best practices to the company, while also helping to evaluate the existing corporate staff for innovators and other individuals who may be ready to step into new roles. As these leaders will also be instrumental in leading efforts to localize employee teams, expatriate leaders who come to the region must also demonstrate both the capability and propensity to serve as coaches and mentors to rising local leaders.

Beyond leadership development skills, the most sought-after senior executives for MENA's telecom sector would also possess the insight to conceive new strategic avenues for a company, as well as the ability to be effective agents of that change. This might include a cultural transformation as well as a business restructuring. These top leaders might also recalibrate the targeted results paradigm for the company, highlighting customer-orientation and creativity as equally critical as operating efficiency. Individuals with this package of leadership competencies are, indeed, hard to find.

Successfully navigating a leadership transformation as broad in scope as this will be a sizeable challenge for many telecom companies. As experts in global executive search, CTPartners has specialists around the globe with knowledge of telecom sector trends and best practices, as well as connections to the most qualified executive candidates. At the same time, CTPartners consultants in the MENA region possess a deep understanding of the cultural traditions, regulatory climate, and market needs on a country-by-country basis, as well as a close association to local talent.

The opportunities in the MENA region telecom market are nothing less than immense. But for telecom operators, putting the next-generation technology, devices, and services into place is simply the first step. Success will be dependent upon taking the second step—putting the next-generation leadership in place to ensure that the business strategy continues to connect with consumers well into the future.

CTPartners is a leading global executive search firm that serves clients with 500 professionals and employees, located in 44 offices in 24 countries. The firm's global Technology, Media & Telecom Practice includes more than 50 search professionals.

Capex-saving opportunities for emerging market operators

Until recently, operators in emerging markets have focused on building networks and customer acquisition. However, operators' profit margins and cashflow are increasingly squeezed as markets approach saturation, which drives the need for cost optimisation and efficiency. A review of capex will help operators to identify and prioritise opportunities for rationalisation (such as network sharing and increased asset use), and to maintain or improve margins and return on capital invested, despite stalled ARPU and revenue growth.

Significant scope for capex optimisation exists in both network and non-network elements

Capex inefficiency in a network is generally driven by use of legacy systems with a focus on immediate requirements, lack of rationalisation and not keeping up with technology innovation. Additionally, optimisation is focused on network elements (such as RAN, transmission and backhaul, network IT and passive infrastructure) and not enough emphasis is given to non-network elements (such as land and buildings, vehicles, office equipment and furniture). However,

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based on our experience of working with multiple operators on cost optimisation, non-network elements contribute between 5% and 15% of the total capex investments and typically offer significant scope for further capex optimisation.

It is also essential that operators evaluate all technical and non-technical elements to identify areas that carry significant potential for improved cost efficiency. Procurement is one such classic example – having a robust procurement framework drives efficiency and cost reductions.

More importantly, while finalising cost-cutting initiatives, it is imperative that operators maintain the balance between short-term cost savings and long-term objectives. An initiative may help address a short-term cost-reduction target, but could have significant cost implications in the long term. For example, a single-RAN deployment may not lead to capex savings in the short term, but in the long term it will result in benefits such as providing a future-ready platform for 3G and 4G services to meet the ever-growing mobile broadband demand (data-centric), reducing

Operators have opportunities to reduce capex significantly without undermining network performance or QoS

Our recent experience with a medium-sized African mobile operator suggests that there is significant potential for capex efficiency enhancement and cost reduction. The operator was experiencing a slowdown in revenue growth as a result of market stagnation and increased competition putting a squeeze on margins and cashflow. The operator entrusted Analysys Mason with the task of assessing its technical and non-technical capex investments across different functions of the organisation and identifying areas with potential for capex optimisation. As a starting point, we reviewed the operator's network technology, architecture and design, management (including resilience and built-in redundancy) and maintenance strategy. Thereafter, we benchmarked its capex spend across main functions (RAN, backhaul, core, IT, passive infrastructure and non-network capex) and per-unit procurement cost of key network equipment against a set of carefully selected local, regional and worldwide operators from emerging markets. This enabled us to identify key functions where its capex investments were significantly higher than the peer group average.

Finally, we analysed the main reasons behind the identified capex gaps based on technical assessment and discussions with senior and mid-management executives and on-the-ground personnel across the organisation. As a final output, we recommended multiple technical and non-technical initiatives to drive capex efficiency and reduce costs, without any negative impact on its network performance or quality of service (QoS), based on our past experience and 'best in class' practice adopted by operators in similar markets. Some of the capex reduction initiatives suggested were:

An efficient procurement process (with a centralised procurement team, process transparency, prudent contract management and good co-ordination among relevant departments) can on its own result in a reduction in equipment procurement cost of more than 10%.

Before embarking on such an exercise, operators must identify areas and functions that offer significant potential for improvement through technical evaluation and benchmarking. Great care must be taken when comparing performance benchmarks from mobile operators in different countries – the external and internal environments specific to each mobile operator affect their performance. In order to ensure that true like-for-like comparisons are made between the inherent performances of different mobile operators, it is necessary to remove the effect of external and internal factors on KPIs by normalising benchmarks in an open and transparent manner.

equipment cost because of use of a single platform (single BTS instead of two or more BTSs for different technologies), and drive savings as a result of reduced equipment operations and maintenance and power consumption costs.
When initiatives have been identified and finalised, operators need to develop a short-, medium- and long-term implementation strategy and roadmap because most of the technology-related initiatives are complex and require time to implement because of established systems in place and/or current market regulations. For example, infrastructure sharing can lead to significant capex savings, but in many markets the regulator may not allow active infrastructure sharing. Additionally, to implement network sharing, finding strategic partners (operator) willing to share the network, and putting such network-sharing agreements in place can take significant time to finalise and set in motion.

- equipment procurement optimisation
- multi-vendor strategy for core network
- adoption of energy service company (ESCO) model for alternative energy solutions (to be implemented only in a situation where funds are lacking)
- deployment of SON technology
- active network sharing.

These initiatives will help the operator to reduce its capex by 6.3–8.0% in the short-to-medium term (that is, over the next 3 years) and about 11.0% in the long term (see Figure 1).

Figure 1: Capex optimisation potential in a medium-sized MNO in Africa [Source: Analysys Mason, 2014]
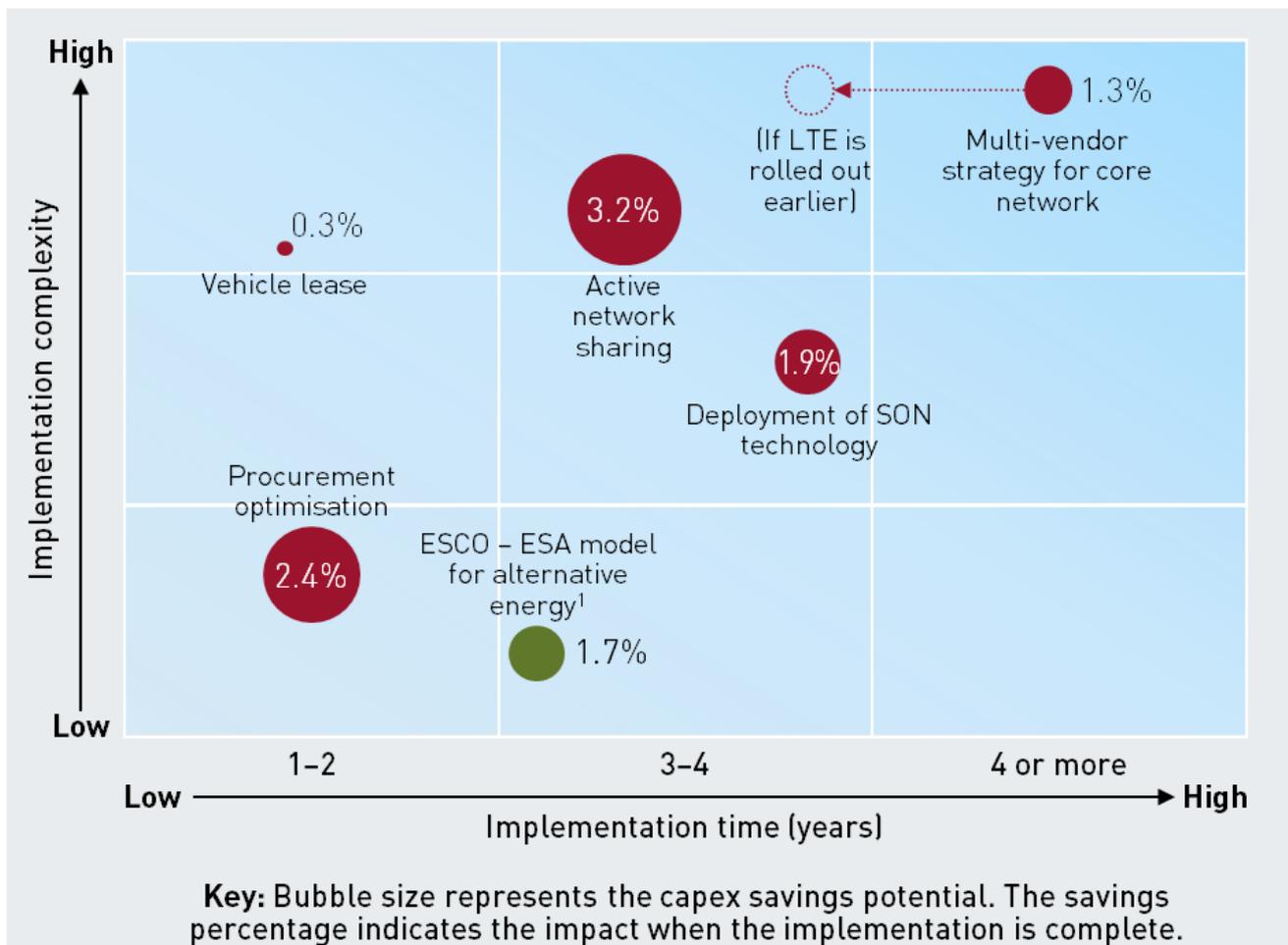
For a successful capex optimisation exercise, operators need to:

- ensure buy-in from significant internal stakeholders: Any cost optimisation activities need to be communicated clearly across the organisation – this is important in ensuring buy-in, collaboration and active involvement of core teams within the organisation

- understand the compromise between capex and opex: Capex reductions may have negative implications for opex. Operators should focus on understating the total cost of ownership and the opex implications before undertaking any reduction initiative

- set up a robust programme management organisation (PMO): Most of the capex optimisation initiatives require a few years to show results because legacy systems need to be replaced and operators need to build a robust PMO to ensure effective implementation and continuous monitoring.

IPX Critical to Next Phase of LTE Growth in MENA

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Of all the regions in the world, the Middle East and Africa will offer one of the most exciting places for the uptake of LTE in the next few years. In addition to a large population and increasing smartphone and data usage, the region presents a tremendous opportunity for LTE growth since many rural areas have low wireline penetration. The fixed-line stage of Internet connectivity is largely being skipped, and many users are moving directly to mobile for their primary means of going online.

Yet despite these promising indicators, the next phase of LTE growth in MENA will present complex challenges that will in large part only be solved with a high-performance technology environment capable of handling the wide-ranging requirements of LTE.

LTE Opportunity on the Rise
To appreciate the increasing LTE opportunity in MENA, consider the region's recent growth. In 2013, mobile data traffic in the Middle East and Africa more than doubled, growing 107 percent, and overall the region is expected to have the strongest mobile data traffic growth of any part of the world, with a 70 percent compound annual growth rate from 2013 to 2018, according to Cisco. What's more, Cisco forecasts that 4G uptake will increase over 24-fold in this region, moving from 3.64 million connections in 2013 to 86.57 million by 2018.

As an example of how this is taking shape, within the Middle East, every mobile network operator (MNO) in the Gulf Cooperation Council – which includes the United Arab Emirates, Bahrain, Kuwait, Oman, Qatar and Saudi Arabia – now has at least one LTE network. What's more, LTE subscriptions are expected to grow to 30 million in these countries by 2018, according to Pyramid Research.

A Game-Changing Technology
LTE will thus be crucial to serving the rising mobile data needs of MENA. However, LTE deployment involves a number of new technology challenges that must be addressed. Among other challenges, not only will MNOs have to install new equipment and adapt existing infrastructure to new technology standards, they will have to determine new pricing structures and reconfigure business partner relationships for roaming and other services. As a result, a critical determinant in the next phase of LTE growth will be establishing a network environment with the robustness

and versatility to support the new technology as well as the new business requirements of LTE.

IPX (IP Packet Exchange) has emerged as a game-changing technology to enable this, and its unparalleled capabilities provide the best anchor to manage LTE implementation over any other technology. New improvements in IPX technologies enable integration of comprehensive services and connection to any MNO worldwide through one secure, flexible network environment. These advancements continue to strengthen a single-connection approach to LTE that simplifies testing, optimizes efficiency and lowers costs while enabling multiple connections with MNOs worldwide.

For these reasons, it is imperative that MNOs in MENA begin developing a full-scale strategy for implementing IPX to realize the full value of LTE and deliver the performance, efficiency and security needed for its implementation.

LTE Challenges, IPX Solutions

While LTE promises tremendous increases in speed and improvement for mobile data services, its deployment will pose a number of challenges

in MENA. First and foremost, the operability and performance of the new network must be absolutely guaranteed, with all new LTE technologies and processes rigorously tested and validated. In addition, costs for the new LTE equipment and the installation of this new equipment can be formidable, and must be carefully planned and managed. Above all, though, is guaranteeing a seamless and consistent user experience, as users have come to expect flawless, always-on service and have little

understanding of or tolerance for the complexities of behind-the-scenes integration.

IPX addresses these challenges with three key capabilities that make it one of the most valuable enablers for LTE deployment:

1. High-performance network environment – IPX provides extreme capacity and versatility to enable a powerful backbone for MNOs to vet and validate a multitude of new, complex processes. This is especially important for LTE roaming, for which many standards are still evolving and implementations can vary widely from MNO to MNO.

2. Future-proof foundation – With LTE the latest of a wave of new network technologies that will continue to reshape the mobile world, MNOs must not only build an infrastructure for LTE, but an infrastructure that can be reconfigured for the next advancement with as much ease and cost-effectiveness as possible. To this end, IPX provides MNOs with an open-standards-based technology to provide a future-proof network for enabling LTE deployment while also implementing a flexible foundation for the configuration of new technologies.

3. Direct connections – With the rollout of any new network standard not yet in complete use, a critical component in providing the most value with the network is ensuring connections to the largest number of other networks using the new standard. In this way, MNOs deploying LTE must be able to have reach to a maximum number of LTE networks to offer the widest coverage for their users and maintain their competitive advantage. IPX allows this to the highest degree possible through a single-connection approach, which simplifies testing and deployment while consolidating the establishment of a maximum number of connections worldwide.

Rising data usage will soon drive an exciting phase of LTE growth in MENA. This growth will allow a wide-scale bypass of wireline Internet access as many users move directly to mobile as their pathway to go online. As a result, mobile will be positioned to power a wave of innovative new services and applications across the region. To enable this future, it is critical that MNOs in MENA begin developing a full-scale strategy for implementing IPX to securely and efficiently test and deploy LTE service.

SATELLITE UPDATES

US$36 million for Bangabandhu satellite's orbital slot

The government is likely to spend $36 million to procure the orbital slot needed for the launch of the Bangabandhu satellite, the country's inaugural communication and broadcast satellite. The figure is over and above what the government was hoping to pay to acquire an orbital slot. As per the Bangabandhu satellite project's outline, $28 million has been assigned for the purpose, but the vendor, Russian company Intersputnik, is firm on its asking price of US$36 million. An official of the Post and Telecommunication Division said the proposal has been finalized and will soon be sent to the cabinet committee on economic affairs for approval. If the deal is not closed with Intersputnik by December 31, the company will sell the slot to some other interested party, he added. The slot was rated as the best option for the satellite by the project's consultant, Space Partnership International, a US company. The Russian company is willing to give the full control of the satellite to Bangladesh, a feature not provided in the other available orbital slots, as per the proposal. There is scope to launch three satellites in a row from the slot and it will be possible to provide many planned quality services to Bangladesh and other countries in the region through it.

SES' Astra 2G Set for December 28 ILS Proton Launch

Astra 2G has a spacecraft power of 13kW and a design life of 15 years. It is based on the Eurostar E3000 platform. According to SES, the launch will be broadcast live in high definition via Astra at the 19.2 degrees east orbital position.

Airbus-built Inmarsat 2 F2 Satellite Breaks World Record for Mission Lifespan

The Inmarsat 2 F2 satellite built by Airbus Defense and Space was decommissioned this week after 23.5 years of performance in Geostationary Earth Orbit (GEO). Lasting more than two decades, the satellite took the world record for longevity from a previous Airbus Defense and Space satellite, Inmarsat 2 F1, which operated in orbit for 22.5 years. Both spacecraft were based on the early Eurostar satellite bus and had expected lifespans of 10 years. Airbus Defense and Space has 59 Eurostar satellites launched to date. According to the company, none have ever been lost in orbit. The 16 retired Eurostar satellites have exceeded their expected lifespan by 39 percent on average. A total of 43 are still in service, and Airbus has 12 satellites based on the

latest generation, the Eurostar E3000, under construction today. Of the 12, five use electric propulsion and nine support high throughput payloads.

Globalstar Selects Level 3 Communications for MPLS Network Upgrade

To upgrade its ground stations around the world, Globalstar has selected Level 3 Communications to supply a fully meshed Multi-Protocol Label Switching (MPLS) network. Globalstar is upgrading its backbone infrastructure,

and chose Level 3 Communications for global connectivity and continuity.

"By selecting Level 3's meshed MPLS architecture, we are enhancing our reliability to provide optimal service and capabilities for our customers today and with our second generation network deployment in 2015," said Jay Monroe, CEO of Globalstar. "Level 3 was a logical choice for many reasons, including their deep U.S. fiber footprint which we plan to use for our Terrestrial Low Power Service (TLPS) wireless broadband deployment."

Eutelsat Offers GSM Demodulation Tool to IRG Members

Eutelsat-developed GSM Demodulation Tool is now being offered to all members of the Satellite Interference Reduction Group (IRG) including new members joining throughout 2015. The tool,

which Eutelsat demonstrated at the recent IRG workshop in London, uses a simple detector unit, a PC and mapping software to locate GSM beacons. In most cases the unit detects the mobile cell being received and thus pinpoints to one or a number of VSAT terminals in the area that are generating interference. The tool has been developed to identify GSM retransmission interference, which can result from incorrectly installed or maintained RF cables connecting a modem to a block upconverter. "In the past, operators have used modified legacy Nokia handsets to detect this problem. This new tool integrates into

the main operation to make resolution much simpler. We are confident it will make a huge difference for users," said Andreas Voigt, communication systems manager at Eutelsat.

Inmarsat, TSF Help Connect Philippine Towns Affected by Typhoon Hagupit

Télécoms Sans Frontières (TSF), the Inmarsat-sponsored telecoms agency, has entered Eastern Samar in the Philippines to provide crucial emergency communications in the wake of Typhoon Hagupit. Following assessments of the towns spanning Borongan to Artechi, many of which were destroyed by floods and landslides, TSF reported that mobile networks had been established but there was no Internet connection — crucial for the coordination of aid operations for people in isolated and impoverished communities. ICT

support teams have now connected three of the worst-hit towns, Borongan, Oras and Dolores, by positioning Inmarsat BGAN terminals in the city hall and hospital in Dolores and in the municipal buildings of the other two towns. In Dolores and Oras alone, Hagupit has affected more than 84,000 people.

nc+ for Nine Transponders

Eutelsat Communications has received a contract renewal from Poland's nc+ for nine transponders at the Hot Bird video neighborhood. Through this renewal, nc+ plans to expand the digital services it broadcasts Direct to Home (DTH) for 2.2 million subscribers. Today nc+ broadcasts more than 160 channels through Hot Bird satellites, along with more than 400 Free-to-Air (FTA) channels. Nearly half of these channels are in HD, and the broadcaster has plans to pursue Ultra-HD in the future.

STC Completes Satellite Hub Upgrade for Arabsat

Global System for Mobile communications (GSM) operator STC has finished the renewal and upgrade of the company's satellite hub for Arabsat in Riyadh. Arabsat President and CEO Khalid Balkheyour said the multi-million dollar renewal enables reliable communications on the company's Badr 5 satellite, located at 26 degrees east. Arabsat has satellites located at 20 degrees east, 26 degrees east, 30.5 degrees east, 39 degrees east and 34.5 degrees east. The company has plans to launch new satellites in order to own the youngest fleet in the region.

Thuraya Releases Entry-Level SatPhone: the Thuraya XT-LITE

Thuraya has announced the availability of a new satellite phone targeting casual, non-enterprise customers. The Thuraya XT-LITE can make phone calls and send SMS messages in satellite mode throughout Thuraya's coverage, which extends to 160 countries. The satellite phone can connect people who work or travel outside of terrestrial coverage, and can be used

as a backup in natural disasters. "With the XT-LITE, we aim to dispel the outdated perception that satellite phones are only made for enterprise or government users by addressing a currently untapped segment. The addition of Thuraya XT-LITE facilitates a dual phone strategy whereby Thuraya continues to offer our existing flagship product, the Thuraya XT for the professional, enterprise segment, and the Thuraya XT-LITE for the casual value users," said Alexander Lachner, senior product manager of voice services at Thuraya.

Remote Connectivity Demand Boosts Optus Satellite Throughout 2014

Australia's remote connectivity needs are fueling growth for domestic satellite operator Optus Satellite. The company's latest satellite, Optus 10, began commercial service this month following a September 11 Ariane 5 launch. Optus Satellite Vice President Paul Sheridan told Via Satellite that demand for telecommunications and broadcasting in and around Australia propelled the company throughout 2014. "This year, we've also seen growth in on-demand telecommunications services as remote communities, tourists and regional businesses seek access to reliable mobile and broadband services, anytime and anywhere. We're also seeing good growth in the Machine-to-Machine (M2M) space, as businesses look to monitor assets and infrastructure located on remote work sites. There's also a mounting appetite for disaster recovery services that enable businesses to quickly restore their business-critical communication systems," he said. Mainland Australia is 7.69 million square kilometers, making it the largest country in the world after Russia, Canada, China, the United States and Brazil. Australia's ocean territory is also the third largest in the world. Optus Satellite serves the continent and surrounding regions including New Zealand and McMurdo Sound, Antarctica using a fleet of six satellites. Sheridan described the most recent satellite as part of a long-term multi-faceted strategy, providing increased fleet resilience and capacity

to deliver voice, data and video services. The SSL-built satellite carries 24 Ku-band transponders and is located at 164 degrees east. "Satellite services will always play an important role in a country the size and scope of Australia," said Sheridan. "We are seeing healthy demand for mobile and data services from a range of enterprises operating in isolated parts of the country including gas and mineral exploration ventures, agricultural leases and emergency services." Sheridan said Optus is often the only means of accessing Free-to-Air (FTA) and pay-TV content for many households in Australia and New Zealand. He added the company is seeing strong growth in this region, especially for High Definition (HD) broadcasts. Optus is confident 4K will one day become a broadcasting norm in these markets too, but that it needs more time for the technology to become regular. "While ultra-high definition content has been embraced by the film industry, demand for 4K television remains limited for good reason. The introduction of 4K content requires wholesale change within the broadcast ecosystem. Just like the previous evolution from Standard Definition to High Definition television, mainstreaming 4K technology requires changes to transmission schemes and set top boxes, along with access to adequate content," he said. Sheridan mentioned next generation Set Top Boxes (STBs) as a catalyst for 4K becoming routine in the future. Optus is also working with Australia's state-owned National Broadcast Network (NBN Co) to supply broadband access to remote parts of the country. The satellite operator is providing capacity, network infrastructure, customer premise equipment and operating systems for interfacing with NBN Co and retail service providers as part of a five-year agreement that began in 2011. Sheridan said these services would continue until NBN Co has established its own infrastructure. In February, NBN Co signed a five-year agreement with Optus to operate two new Ka-band satellites for the organization's long-term satellite service. Once launched in 2015, Optus is contracted to provide tracking, telemetry and control services for the spacecraft. NBN Co is in the process of beefing up its infrastructure, in part by acquiring Optus' coaxial access network in parts of the country. The

organization completed nine out of 10 ground stations as of September this year. Sheridan said finalizing the installation and testing of the systems and processes to support Optus' contract with NBN Co will be a key focus in the coming months.

Myanmar to Own First Satellite in Five Years Time

Myanmar's government has outlined a plan to develop and orbit the country's first satellite in five years. The country is looking to leverage private industry to move forward with the spacecraft efficiently. "While the national priority is for Myanmar to have its own satellite, it is also important that, by opening the market, the ministry enhances the development of the broader [Information and Communication Technology] ICT industry," said Deputy Minister H.E. U Thaung Tin of the Ministry of Communications and Information Technology Myanmar. "Although there is no timeline for the launch of a satellite, the selection process will follow that of the international mobile licenses, with an open, fair and transparent tendering process, followed by public consultation."

Thuraya Donates Satellite Phones to ITU

Thuraya has donated several satellite phones to the International Telecommunication Union (ITU) to better equip relief workers and first responders for emergencies. The company provided Thuraya XT

handsets, which are water resistant, shockproof, work with the antenna stowed away, and can be charged with a solar charger when power grids are down. The satellite phones will assist the ITU in setting up mobile communications for disaster-prone countries as well as to strengthen response and recovery mechanisms. The ITU is also receiving preferential airtime rates and technical training support.

Himawari 8 Satellite Releases First Images

The Japan Meteorological Agency has released the first images from the Himawari 8 geostationary weather

satellite, which launched Oct. 7, 2014 aboard an H2A rocket. Mitsubishi Electric built the satellite using the DS2000 platform. The Himawari 8 spacecraft is slated for operation by mid-2015. Between then, the satellite will undergo testing and checking of in-orbit systems and ground facilities.

Satellogic Finalizes 16-Satellite Earth Observation Constellation

Satellogic, a startup company founded in Palo Alto, California with offices around the world, has finalized plans for its first wave of satellites to begin launching in the second half of 2015. The company finished the preliminary design review this month and plans to begin manufacturing in early January. "We are gearing up to launch the first service constellation of 16 satellites next year," Emiliano Kargieman, Satellogic founder and CEO told Via Satellite. "We are also gearing up to launch the first satellites of the new generation in the second half of 2015."

ILS Proton Delivers Six-Ton SES Satellite to GTO

International Launch Services (ILS) lofted the Astra 2G satellite for SES on December 27 using a Proton Breeze M booster. The rocket carried the six-ton satellite into Geostationary Transfer Orbit (GTO) after a mission lasting nine hours and 12 minutes. The Astra 2G mission was significantly delayed after a Federal Proton mission operated by the Russian government failed, consequently grounding the launch vehicle for months. Proton has flown four times since the incident, completing missions for the Russian government, Gazprom Space Systems, Russian Satellite Communications Company (RSCC) and now SES. The December launch marks the 24th SES satellite ILS has launched.

China Orbits Yaogan-26 remote sensing satellite with Long March 4B Rocket

China's state-run news agency Xinhua reports the Yaogan 26 remote sensing satellite entered space after launching aboard a Long March 4B rocket on December 26. The launch, which was the 202nd for the Long March rocket family, occurred from the Taiyuan Satellite Launch Center in north China's Shanxi Province. According to Xinhua, the satellite's primary functions are land surveys, agriculture, scientific experiments and disaster prevention. China launched Yaogan 1, the first Yaogan satellite, in 2006.

Russia Launches Resurs P2 Satellite Aboard Soyuz 2.1b

The Russian remote sensing spacecraft Resurs P2 launched aboard a Soyuz 2.1b rocket on December 26 2014 from the Baikonur Cosmodrome. The Earth observation satellite is capable of panchromatic and hyperspectral imaging, and carries equipment for automatic ship identification. Built by TsSKB-Progress (Samara), the Soyuz 2.1b has an improved third stage engine compared to the Soyuz 2.1a.

ITU Telecom World 2014
December 7-10, 2014, Doha, Qatar

ITU Telecom World 2014 opened its doors to a packed program of conversations and debates on the theme "Future in Focus". A spectacular Opening Ceremony at the Qatar National Convention Centre in Doha brought together a glittering line-up of high-level participants, including:

Chairman of the Board of Directors, Ooredoo Group, Sheikh Abdullah Bin Mohammed Bin Saud Al Thani; Prime Minister of Qatar, Sheikh Abdullah bin Nasser bin Khalifa Al Thani; Minister of Information and Communications Technology, ictQATAR, H.E Dr. Hessa Sultan Al Jaber; ITU Secretary-General Hamadoun I. Touré.

Sheikh Abdullah Bin Mohammed Bin Saud Al Thani, Chairman of the Board of Directors Ooredoo Group took the opportunity to highlight the need for partnership and collaboration between the world's key players, saying, "Amongst us are many of the world's largest technology companies. We are joined by many high ranking government representatives, policy shapers, from across the region and the world, as well as a new generation of entrepreneurs and app-developers. Feel our power, our combined experience and know how. Together we can make the future happen sooner."

"We are extremely proud to host a great number of telco corporations as an important hub," said Sheikh Abdullah bin Nasser bin Khalifa Al Thani, Prime Minister of Qatar in his Opening Ceremony address. "To meet here and to debate is an opportunity to exchange ideas about new opportunities which can contribute to changing and transforming the world."

"With the increasing interconnectivity between sectors, no one can work alone, as in the past," said Dr. Hessa Al Jaber, Minister of Information and Communications Technology (ictQATAR). "We must work together to help bring these technologies to the rest of the world."

Highlighting the tremendous potential of technology as a tool for improving lives, ITU Secretary General Hamadoun I. Touré noted in his opening address: "Never before in human history have so many developments in technology, in science and business come together with such tremendous potential to improve the lives of people everywhere. Never before have the challenges of ensuring that the changes happening are fair, equitable and ethical been so considerable."

Organized by ITU, the United Nations Specialized Agency for ICTs, the event was hosted by the Government of Qatar, with the support of leading international communications company, Ooredoo.

ITU Telecom World is a fully funded annual event which takes place in a different geographical location each year. The events are organized by ITU Telecom, part of the International Telecommunication Union (ITU). Event of this year took place in Doha, Qatar from December 7-10, 2014.

The purpose of these events are leveraging status as a UN agency to bring together public and private sectors, developed and emerging markets; Insight and understanding of the current industry disruption

and evolving ICT ecosystem; World-class debates with expert speakers on technology, policy, strategy; Show floor experience showcasing global innovation and investment opportunities; Unparalleled exposure to and for emerging markets; Face-to-face networking at the highest level.

The programs consist of keynote and high level discussions, workshops, creative and big conversations, panel discussions and Ministerial Session.

Day-1 Activities:

Day one activities started with workshops on 'From Circuits to Packets: Hidden Risks, Unexplored Opportunities', 'Digital Economy Transformation' ' and 'TD-LTE Technology and Spectrum', followed by panel discussions on 'the Essential Case for Hybrid Solutions', 'The Road Towards 5G', 'LTE and Public Safety', 'The Role of Solar Integrated Technology Solutions in Delivering Affordable and Relevant Community Services in Africa', 'The Next Big Internet Step: Moving to IPv6 to Enable Everything on the Internet (IOT, CC, SDN, NFV, 5G)' and 'ICT for Development and Saving Lives'.

Day-2 Activities:

Day two activities started with a keynote & high-level debate on 'Disrupt or be Disrupted to Make Broadband Universal', followed by Creative Conversations on 'Co-Creation in the Innovation Ecosystem' and on 'Body Sensor Networks – Health, Sports and ICT', A big conversation on 'Big Data: Heaven or Hell or... 'Hellven'?, and panel sessions on 'A Call to Arms for Regulators, Consortia and Governments', 'The Digital Dividend and the Internet of Things', 'Convergence of Broadcasting and Broadband', 'NGN Regulatory Models', 'Networks in the Cloud', 'Dynamic Spectrum Access: Opportunities and Challenges', 'A Regulator's Nightmare', 'Affordable International Backhaul' and 'Broadband Rollout in Emerging Economies - What Comes Next?'

Day-3 Activities:

Day three activities started with a keynote & high-level debate on 'Cross-Sector Partnerships' followed by Ministerial Sessions on the topics of 'Strategies for a Smarter Society' and 'Smart Governance: Enabling the Digital Economy', panel sessions

on 'Revenue Generation through Community Driven Social and Economic Partnerships', 'Big Data for Development', 'Innovation for Telcos – a Practical Guide' and 'The IT-isation of Telecom Networks'.

Day-4 Activities:

Day four activities started with a keynote & high-level debate on 'The Intelligent Future' followed by the panel sessions on the topic of 'ITU: Balancing Facilitation and Participation', 'The Internet of Things: A Force for Good or Evil' and 'Make Your Country an ICT Star: ICT Surveys, SIDS and Vanuatu'.

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