



Volume 06 _ Issue 09 _ Sept 2015

SAMENA TRENDS

EXCLUSIVELY FOR SAMENA TELECOMMUNICATIONS COUNCIL'S MEMBERS

BUILDING DIGITAL ECONOMIES

A SAMENA Telecommunications Council Newsletter

Articles

.....
Emerging trends in regulatory and investment landscape in the regional markets
Page 54

.....
The role of telecom operators in building digital ecosystems
Page 60

.....
Recent IoT investments show telecoms operators (gradually) moving up the value chain
Page 71



Exclusive Interview
Michel de Rosen
Chairman & Chief Executive Officer
Eutelsat Communications

Page 04

Emerging trends in regulatory and investment landscape in the regional markets

The SAMENA TRENDS newsletter is wholly owned and operated by The SAMENA Telecommunications Council FZ, LLC (SAMENA Council). Information in the newsletter is not intended as professional services advice, and SAMENA Council disclaims any liability for use of specific information or results thereof. Articles and information contained in this publication are the copyright of SAMENA Telecommunications Council, (unless otherwise noted, described or stated) and cannot be reproduced, copied or printed in any form without the express written permission of the publisher.

The SAMENA Council does not necessarily endorse, support, sanction, encourage, verify or agree with the content, comments, opinions or statements made in The SAMENA TRENDS by any entity or entities. Information, products and services offered, sold or placed in the newsletter by other than The SAMENA Council belong to the respective entity or entities and are not representative of The SAMENA Council. The SAMENA Council hereby expressly disclaims any and all warranties, expressed and implied, including but not limited to any warranties of accuracy, reliability, merchantability or fitness for a particular purpose by any entity or entities offering information, products and services in this newsletter. The user agrees that The SAMENA Council is not responsible, and shall have no liability to such user, with respect to any information, product or service offered by any entity or entities in this newsletter. The SAMENA Council's only liability in the event of errors shall be the correction or removal of the erroneous information after verification.

Editor-in-Chief

Bocar A. BA

Contributing Editors

Izhar Ahmad
Javaid Akhtar Malik

Contributing Members

Analysys Mason
PTCL
Strategy&

Publisher

SAMENA Telecommunications Council

Subscriptions

subscriptions@samencouncil.org

Advertising

ads@samencouncil.org

Legal Issues or Concerns

legal@samencouncil.org

SAMENA TRENDS

trends@samencouncil.org
Tel: +971.4.364.2700



EDITORIAL

03.

REGIONAL PERFORMANCE

10. Regulatory Trends and ICT Adoption

REGIONAL & MEMBERS UPDATES

12. Members news

20. Regional news

REGULATORY & POLICY UPDATES

27. Regulatory news

33. A snapshot of regulatory activities in SAMENA region

42. Regulatory activities beyond the SAMENA region

54. Emerging trends in regulatory and investment landscape in the regional markets

WHOLESALE UPDATES

56. Wholesale news

TECHNOLOGY UPDATES

60. The role of telecom operators in building digital ecosystems

62. Technology news

71. Recent IoT investments show telecoms operators (gradually) moving up the value chain

SATELLITE UPDATES

73. Satellite news



04.

EXCLUSIVE INTERVIEW

Michel de Rosen
Chairman & Chief Executive Officer
Eutelsat Communications

Emerging trends in regulatory and investment landscape in the regional markets



Throughout 2015, significant investments have been made on infrastructure development; a trend that would continue well into the year 2016, when much in-progress work on M2M development, Big Data, 5G, and Cloud would also surface. Broadband service providers will continue to aggressively maintain their hold on 3G and 4G/LTE, with some contributing directly to the development of 5G.

Capex requirements through 2015 have remained high and would exceed US\$350 by the end of the year. In part, this continues to be supported by the fact that regulatory authorities have increasingly been focusing on aligning themselves with the emerging industry trends, so that the right type and amount of regulation, including regulatory incentives, could be provided to market players. Industry stakeholders indeed understand now that ours is a world of distinct telecom platforms and individual networks are now gradually transforming into converged networks, with connectivity being transformed into computing.

Given the inevitability of their presence, issues challenging the policy and regulatory leadership are indeed many. These include but are not limited to understanding emerging market dynamics, planning proactive and self-regulatory measures, ensuring public safety through integrated emergency response systems and through supervised use of telecom technology, facilitating strategies to help operators mitigate quality of service issues; meeting and exceeding broadband development goals, internally transforming the regulatory culture, collaborating with other government bodies to develop applications that increase efficiency of government services, connecting remote areas, and educating and empowering users and consumers, to name a few among a host of challenges and responsibilities that are being discussed within the policy and regulatory circles.

Understanding what is happening in the market and how ICTs are shaping the world, opening up new opportunities for consumer-centric innovation, and aiding improved and simpler ways of doing things faster while supporting a new set of interactions, are among the highest priorities that many regulators have already understood. Many such progressive regulators are also becoming aware of how cloud is becoming the next big thing and how the reality of artificial intelligence is dawning upon us. Thus setting new conditions for ICTs to flourish, protect and attract investment, and in order to foster innovation to deal with a myriad of challenges that confront humanity, its existence, and the environment we live in, all form an integral component of the picture that is gradually been seen clearly by many.

Encouragingly, the fact that nearly 75% of the countries in the world have either adopted or are expected to set new digital policies, shows regulators know what ICTs are capable of achieving. Therefore, their roles must be understood.

Regulators are also realizing that flexible, relevant, and competition-friendly regulatory frameworks have to be put in place in what is increasingly being referred to as the "fourth-generation of regulations". In their efforts, much is being done on spectrum, with the three key stakeholders (equipment manufacturers, telecom operators, and regulators themselves) working together on ways to accommodate new means and frequency requirements for broadband access. In this context, old methods of assigning spectrum are blurring and new licensing conventions are emerging, developed through unprecedented collaborative work.

In an emerging business trend where customers are now paying with data than currency, the challenge of striking balance between data collection, availability, and protection has become great. Thus regulators, as other stakeholders within the industry, are placing great focus on understanding the role, use, implication, and analysis of Big Data. As a consequence, focus on consumer and citizen security both online and in the physical world using telecom technology has begun to gain ground. This is especially happening when the scale of mobile wallet adoption is brought to the view.

However, the most important new regulatory trend, which SAMENA Council views as being second only to the willingness to understand the market trends and dynamics, is the fact that regulators have become very keen on monitoring the implementation of broadband plans and strategies, especially on programs that have a wide scope and thus are difficult to manage or monitor.

Improved co-ordination and more refined regulatory visions with regard to viewing broadband as a critical factor that determines success in the digital economy are required for adopting effective measures on making more spectrum available for broadband access. And this the third most visible regulatory trend that has surfaced in the regulatory mind, and one which SAMENA Council considers among the most critical of modern-day needs of the industry.

Yours truly,



Bocar A. BA
Chief Executive Officer
SAMENA Telecommunications Council



Michel de Rosen
Chairman and Chief
Executive Officer
Eutelsat
Communications

Michel de Rosen is Chairman and Chief Executive Officer of Eutelsat Communications.

He joined Eutelsat in July 2009, was appointed Chief Executive Officer in November 2009 and Chairman in September 2013. He is a board member of Eutelsat Communications, Hispasat (the Spanish satellite operator), ABB (a global leader in power and automation) and Pharnext (a pharmaceutical and biotechnology industry leader).

His career has included chief executive positions in international publicly traded groups as well as senior public service appointments. He began his career in France in the Inspection générale des finances in the Ministry of Finance. He was Advisor to the Minister of Defence in 1980 and 1981, and from 1986 to 1988 was Chief of Staff of the Minister of Industry, Telecommunications and Postal Services.

Between 1983 and 1999 he held executive positions at Rhône-Poulenc, including CEO of Pharmuka from 1983 to 1986, CEO of Rhône-Poulenc Fibers and Polymers from 1988 to 1993, and CEO of Rhône-Poulenc Rorer (USA) from 1993 to 1999. From 2000 to 2008 he was Chairman and CEO of ViroPharma in the USA, and Chairman and CEO of SGD in 2008 and 2009.

Michel is a graduate of the HEC business school and France's National School of Administration (ENA - Ecole Nationale d'Administration).



Q. Please tell us about Eutelsat's operations in the region, and core areas of services that Eutelsat is presently focusing on?

A. With two thirds of our 39 satellites delivering premium coverage of the Middle East and North Africa, and a strong 30-year presence in the region, Eutelsat has won the confidence of anchor broadcaster clients that include Al Jazeera, MBC and OSN, as well as market-leading telecom providers like Etisalat, Du, Saudi Telecom Company and Algérie Telecom.

Eutelsat operates satellites at the two flagship video neighbourhoods in the region. The 7/8° West video neighbourhood is the most dynamic in the global satellite TV market, with a rapidly growing audience and channel line-up. Over 50 million homes (92 % of all TV homes) in North Africa and the Middle East are already equipped for Direct-to-Home (DTH) reception of more than 1,200 Arabic and international channels broadcast from satellites operated at this position by Eutelsat and Nilesat. With the successful launch of our newest satellite, EUTELSAT 8 West B, on 20 August we are

ensuring that bandwidth is available at this position for broadcasters to deliver High Definition today and the immersive viewing experience of Ultra HD in the future.

Our second flagship position, HOT BIRD at 13° East, is a key, established bridge for Arab communities living in Europe and for Europeans living in MENA.

On the broadcasting side, we want to further strengthen relationships with customers so that the right resources are available for regular digital channels and increased adoption of High Definition TV. We also want to ensure the stage is set for the upcoming arrival of Ultra HD. Hybrid-video delivery e.g. through HbbTV and enabling multiscreen reception via satellite are additional directions on our roadmap that we want to pursue in collaboration with customers.

Eutelsat's diverse fleet is also a key port of call for video contribution, including by the Arab States Broadcasting Union (ASBU), mobile telephony backhauling, IP connectivity and government services.

Q. What new broadband service initiatives have you launched within the region?

A. Eutelsat has been a frontrunner in the provision of broadband services for users in remote areas and locations poorly served by terrestrial infrastructure. The SAMENA region is already well covered by our portfolio of Ku-band satellites that offer diverse options for broadband connectivity. It is also partially covered by our first High Throughput Satellite, KA-SAT, through a number of service areas addressing some densely populated areas. Services are available in Morocco, Libya, Qatar and Turkey while the licensing process is in progress in Algeria, Egypt and the UAE. KA-SAT provides broadband access services using affordable terminals and 75cm antennas and delivers speeds of up to 22 Mbps downstream and 6 Mbps upstream. It also responds to professional requirements for higher volume and bandwidth for enterprise networks, Internet backhaul, back-up services and M2M connectivity. For this type of heavier bandwidth use, we use terminals delivering speeds of up to

50 Mbps downstream and 20 Mbps upstream.

In the Ku-band our EUTELSAT 21B satellite offers IP connectivity across the MENA region, from Morocco in the West to Pakistan in the East. We complement southern North Africa with the satellite's western beam. This coverage enables Eutelsat to provide a comprehensive and unique range of IP access services for professional users throughout the entire region using our first class teleport network. Services are designed for telcos, corporates, government organizations, companies in the Oil & Gas sector who need high-end broadband or high capacity trunking connectivity. All of these services can be provided in a VNO mode to allow local providers to have full control of their networks.

Q. How do you view the notion of integration of terrestrial and satellite communications? Can it materialize as easily as it is discussed?

A. In addition to their unique benefit of reach and immediacy, satellite communications are an essential complement and back-up technology for terrestrial communications. There are many examples of integration. Backhauling is the clearest example, in particular the extensive use of satellites to connect isolated GSM base stations in remote areas, or connectivity between a core network and access infrastructure at a remote site. In many regions satellite also feeds terrestrial networks and plays the role of a kind of "content-kiosk in the sky". Satellites also increasingly complement terrestrial solutions in digital broadcasting by transmitting digital multiplexes to terrestrial towers and enabling viewers beyond range of terrestrial to receive digital channels on a Direct-to-Home basis. Hybrid satellite terrestrial solutions will also be a way forward to decongest terrestrial arteries.

In a commercially driven environment, valuable synergies of satellite and terrestrial are achieved when policies and standards are well harmonized and allow for interoperability. Timely agreement on policy trends and standards

is also important for satellites as new projects require early upfront decisions on financial investments.

Q. What types of cross-stakeholder, collaborative initiatives would enable the adoption of industry friendly policies and ensure a sustainable digital future for you and your peers?

A. The convergence of digital services and communications calls for increasing interworking and integration of satellite and terrestrial digital communications in order to build future worldwide integrated architectures. In this framework, the role of international and regional policy bodies, like the SAMENA Telecommunications Council, is crucial to moving forward the harmonisation process. The SAMENA Council and other telco associations have a major opportunity to bring together terrestrial and satellite experts and decision-makers at an early stage of policy developments in such a way that the concerns and interests of each party and project are taken into account and respective roles are clearly identified.

This is obviously a challenge as industry is often motivated by commercial interests that may be conflictual. However, we believe that the earlier matters are addressed and the larger the participation, the better the result for the largest number of players.

An example is the current definition of 5G, which is still in a nebulous phase but which will definitely call for the incorporation of satellites into its core network. Now is the right time to bring together the satellite and the terrestrial communications industries on this issue. We believe that the SAMENA Telecommunications Council, including the recently established Satellite Working Group, that Eutelsat is leading and actively supporting, in addition to other Working Groups analysing regulatory, wholesale, roaming and content matters, is well-placed for bridging the gap between satellites, terrestrial operators, OTT players and regulators.

Another area where the advocacy of the SAMENA Telecommunications Council is of utmost importance concerns the regulatory barriers that National Security Boards (NSBs) may introduce when new technologies are proposed, which cause suspension or delays in the licensing process, leading to severe impact on the commercial opening of services in the countries concerned.

Q. What are some of the major business areas that satellite operators of the SAMENA region need to consider when it comes to expansion strategy and competition?

A. The business areas to consider for the region relate to both traditional and innovative technologies for TV broadcasting, marine, military, Oil & Gas, border monitoring, backhauling, broadband access, land mobile and aircraft communications, IoT and digital convergence. The SAMENA Telecommunications Council can also offer valuable opportunities to Eutelsat and other members to present their products and solutions to a larger arena of business players through its network of contacts and activities.

Q. What major contributions has Eutelsat made to the satellite industry at large, fostering innovation and overall growth?

A. Eutelsat is traditionally one of the satellite operators that is most demanding in terms of quality standards, innovation partnerships and technical excellence. In addition to being among the forerunners in Direct-to-Home TV broadcasting, we were an early believer in the value of satellites for broadband communications using the Ka-band via standalone High Throughput Satellites or payloads embarked on satellites. Mobility is another example of a major contribution. We have invested in services for mobile applications, in particular maritime for leisure, cruising, fishing and cargos, including gas and oil tankers, and we are now offering in-flight connectivity services to



commercial airlines in partnership with specialist service providers. We have carefully tracked the evolution of antenna technology for mobility. Through a specialised maritime subsidiary, called WINS, based in Malta we are in a privileged position to serve large commercial fleets with seamless global roaming ensuring uninterrupted communications along international commercial routes.

Q. How has Eutelsat historically dealt with competition and the need to create shareholder value?

A. From the perspective of our clients, the principle benefits of strong competition are that they stimulate operators to be creative on the innovation front, to deliver

the highest quality of service and customer satisfaction as well as good value. If we focus on this, we increase our overall value creation in the sector and our industry reputation as a reliable and forward-thinking technology.

Q. What are your views on spectrum allocation and how can both satellite and terrestrial operators work together to mitigate spectrum issues through collaboration, with the support of an advocacy body?

A. Access to spectrum is the lifeblood of any wireless telecommunication service, and must be allocated in a balanced way to provide for an overall economic

and societal benefit. This balance includes the need for regulatory stability, which is particularly key for satellite whose in orbit assets require upfront investment, against an expected return over a 15 year or more in-orbit lifetime.

However, we say it many times: Satellite and terrestrial operators are not at loggerheads: our services are both complementary and dependent on each other; both need the other to succeed.

This said, difficult decisions do need to be made, and the ITU World Radio Conference in November this year (WRC-15) will address key decisions on spectrum allocation, particularly under its Agenda Item 1.1, by which the terrestrial community is requesting significant additional spectrum to be identified for IMT services.

The satellite community's major concern at WRC-15 concerns the C-band in the band 3.4 – 4.2 GHz which is extensively used today for satellite downlink services. The terrestrial community is pushing for the Conference to identify frequencies in this band for use by IMT. However, and as all relevant ITU studies have concluded since 2007, sharing the same frequency in the same geography is simply not possible between IMT and satellite services in these bands: the much higher power terrestrial signals prevent satellite reception in exclusion zones tens and even hundreds of kilometres around any IMT operation.

The world cannot give up satellite C-band services, which due to their unique resistance to rain fade, represent a vital and irreplaceable telecommunications infrastructure throughout the world. Particularly in sub-tropical regions, satellite C-band provides the only solution for high availability telecommunications services for essential and strategic services such as television distribution and broadcast, safety and government security services (including civil aviation), banking and other corporate activities, and notably, backhaul for terrestrial mobile services.

It is, however, absolutely possible for C-band satellite services to thrive and for IMT to meet its spectrum needs to grow. Today, and in most of the world, less than half of the spectrum already identified by the ITU for IMT has been licensed, and only about 80% of the spectrum licensed is actually used to provide services to users. In other words, IMT can meet even its most aggressive spectrum demand forecasts without pre-empting satellite C-band services.

So, yes, we need advocacy in the right places at the right level in order to ensure that the international community takes decisions at the next Conference in view of the full picture and in view of the maximum interests for society. Eutelsat is confident that the SAMENA Telecommunications Council will support both the satellite and terrestrial sectors in liaising with the regulatory authorities of the SAMENA regions to continue in a positive dialogue.

Many of the ITU regional groups across the world, including the ASMG for the Arab countries, are influential in guiding their member administrations in the Conference process, and we have seen that these groups can be open to balanced arguments. But the advocacy for this needs to continue, not only through to the end of the Conference this November, but also for the Conferences to come.

On this last point, I note that we are already intensively preparing the agenda for the next Conference in 2019, and in particular for an agenda item which will guide the study and debate concerning the identification of additional terrestrial mobile spectrum for future IMT/5G services. Again, here, the satellite and terrestrial communities, as well as the ITU regional groups and individual administrations, will need to arrive at a balanced solution which meets the needs of both communities and their customers. We are already seeing solutions as to how the 5G spectrum needs can be met without destroying key satellite infrastructure on which the world relies. In this respect, the ASMG position is to only consider studying bands over 31 GHz for IMT/5G identification.

We support this approach, as it is both compatible with the choice of bands in ongoing research and pilot programs in 5G, and provide for the wide contiguous bandwidth of unconstrained spectrum for which the 5G/IMT has identified the need. Satellites, which are currently undergoing an acceleration in innovation and new services, will always be an essential part of the global telecommunications picture. It is only by ensuring a thriving co-existence of satellite and terrestrial that a complete telecommunications solution can be delivered to all of society.

Q. How do you view your role in realizing smart cities with sustainable infrastructure, and your developmental role in IoT (Internet of Things)?

A. Satellite has always been used for remote monitoring in isolated areas for power plants, oil & gas pipelines etc. Today, the variety of sites and applications requiring data exchange has grown beyond traditional industrial Machine to Machine (M2M) to the Smart Environment, Smart Metering, Smart Cities, and an escalation of connected consumer devices.

Although new technologies optimised for low data rate applications over long distances have appeared, satellite remains the necessary complement to connect and infinitely extend network infrastructure. Eutelsat's recent investment in Sigfox, a fast-growing international operator of IoT networks, is an example of our interest in these emerging technologies and the effective view of the complementarity of these local networks with ubiquitous satellite connectivity using low-power, low bit rate terminals.

SIGFOX has selected to integrate the 'SmartLNB', an innovative low bitrate, low-power satellite technology developed by Eutelsat into its infrastructure, as one of the solutions to enable base stations to exchange data. As a satellite-based device, the 'SmartLNB' also offers the benefits of simple installation, guaranteed bandwidth

and ubiquitous coverage. The 'SmartLNB' is an original, low-cost device ideally suited for low bitrate applications. It embeds state-of-the-art technology to create a bridge between satellite and IP worlds, and is positioned as a product of choice for smart energy, connected home and other monitoring and control applications for IoT and M2M markets. It's another example of how satellite and terrestrial can converge to provide a solid platform providing real value to users.



MIDDLE EAST
DUBAI • 20 - 21 OCTOBER 2015

Building Connected Societies

Now in its third year, the GSMA Mobile 360 – Middle East event has been successful in bringing together key decision makers in the mobile industry to discuss and explore the issues specific to the MENA region.

Continuing our theme of connecting societies, this year we will focus on the building blocks for creating connected societies. Specifically, how networks and the underlying platforms will enable a range of connected services such as digital commerce, digital identity, digital security and the Internet of Things (IoT).

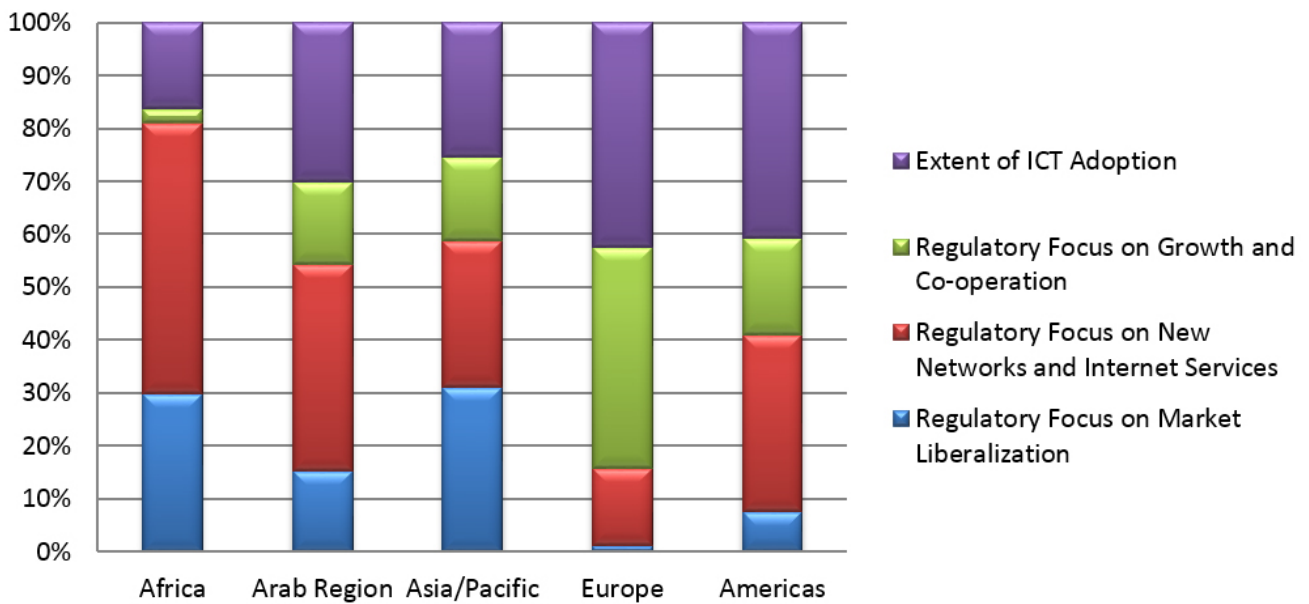
Join us in Dubai 20-21 October!

For more information visit www.mobile360series.com



REGIONAL PERFORMANCE

Evolution of Regulation and Impact on ICT Adoption





Regulatory Trends and ICT Adoption

As is the case with technology, regulation too has been evolving, with its direct impact observed the scale and speed of adoption of ICTs and broadband access throughout the regions.

Having already moved beyond the second generation of regulations (whereby market liberalization was encouraged and subsequently realized through cellular licensing), regulators are gradually shifting their focus from simply regulating networks and online services and internet access to adopting a more realistic and transformed regulatory strategy that supports and facilitates growth and co-operation within the industry.

Significant evidence exists to demonstrate that in markets where focus from market liberalization was followed by a stricter regulatory approach to monitor new networks and services, the shift toward adopting light-handed regulations that would proactively foster growth and collaboration within the industry was seen at a very lower scale. Such slow alignment of regulatory priorities with actual market, technology, and consumer trends clearly impact the level at which ICT adoption takes place.

In contrast, markets that have been successful in creating and sustaining a regulatory focus on growth and co-operation, have witnessed comparatively higher rate of ICT adoption and thus have also been experiencing a higher number of citizens with access to digital services.

Regulatory trends need to point toward the next (4th generation) of regulatory reforms. To this effect, the regulators need to adopt newer and smarter regulatory approaches in an ever converging, communications environment. Their key goals should be to foster equality, inclusiveness among market players, and ensuring that nothing impedes investment from operators and service providers.

The days of partnership for sector-wide development and social inclusion are upon us. Only reactive and flexible modes of regulatory involvement could help best address the emergence of newer technologies and services and their convergence with each other in the rising world of Internet of Things.



MEMBERS NEWS

MEMBERS UPDATES

Ooredoo completes Oman fiber backbone, spanning over 5,000 kilometers

Providing cutting-edge telecommunications infrastructure in the Sultanate of Oman, Ooredoo has announced the completion of its national fibre backbone, spanning almost 5,500km across the country. Providing high speed reliable connectivity, the company has established an independent national infrastructure to bring cutting-edge speed and services to customers and businesses countrywide, a press release said. "The conclusion of this project signifies the dawn of a new era in Oman's telecom sector, one where we are able to keep up-to-date with emerging technologies from around the world, and deliver a host of socioeconomic benefits that support human growth and His Majesty the Sultan's vision for the country," said Greg Young, CEO of Ooredoo. "It is not only about having the available technology, but the opportunities that a superfast network affords. Our aim is to inspire human growth and support everything from government, businesses and SMEs to schools, associations and charities, through digital initiatives." Young added, "This is not simply an upgrade to legacy technology, it is an entirely new and unparalleled network development. We are no longer dependent on using the fibre or transmission from other operators and can single-handedly

ensure that we are able to avoid network outages or interruptions to service, which could impact the country significantly."

GameEon brings Direct Operator billing to customers through partnership with SLA Mobile

GameEon, a game developer and publisher based in India, has partnered with SLA Mobile, a global Digital Service provider, to bring Carrier Billing to their customers. Founded in 2011, GameEon is one of India's up and coming games developers having developed 16 games to date accumulating over half a million downloads through distribution partnerships with various VAS companies. "Partnering with SLA Mobile gives us the ability to extend the reach of our games beyond our primarily Indian customer base. We look forward to embracing the future opportunities that our partnership with SLA Mobile presents" commented Taral Patel, Director at GameEon. Amelia Power, Head of Sales and Marketing at SLA Mobile welcomed the partnership, "GameEon's games portfolio will deliver a range of original gaming content for Mobile Operator subscribers to consume via Direct Operator Billing." Direct Operator Billing is a simple and secure mobile payment option which allows Mobile Operator subscribers the ability

to charge digital products and services to their monthly phone bill or deduct it from their prepaid credit.

DE-CIX Palermo internet exchange begins operations

DE-CIX has announced that its new Apollon Internet exchange in Palermo is now operational. The equipment that supports the exchange was installed in August, and the exchange went live on September 2, 2015. Internet traffic volumes throughout the Middle East and Africa are growing at a rapid rate, fueled by new submarine cable systems that connect the users on the African continent and in the Middle East with Europe. The existing content that is accessed by those users lies mainly in Europe and the U.S. This growth is putting pressure on Content Delivery Networks (CDNs) to bring content closer to the edge. "We founded DE-CIX Palermo to develop a new hub for Middle Eastern and African networks to reach Europe," explains Harald A. Summa, CEO of DE-CIX. "There is tremendous growth happening in these regions. By creating a new hub in Palermo, the Internet experience of the end users will be improved, while networks will benefit from cost savings and better connectivity." DE-CIX Palermo is located in "Sicily Hub," Telecom Italia Sparkle's next-generation data center positioned at the center of the Mediterranean. The facility is connected to all cable landing stations in Sicily and will be a vibrant interconnection point for the international and regional carriers that land their IP backbones in Palermo, as well for CDNs that will collocate equipment in the facility. "DE-CIX Palermo will deliver local, regional and international players high-quality, secure and reliable access to the content and transit providers that enable the Internet to thrive," says Alessandro Talotta, Chairman and CEO of TI Sparkle. "The presence of the most important global content players at Sicily Hub builds a rich ecosystem of multi-breed players, creating the best location for high-quality, cost-efficient public and private peering in the Mediterranean." Indeed, several key CDNs and content providers have already become customers of DE-CIX Palermo. Google and Limelight Networks are both connecting and preparing to peer on the new Palermo exchange, while additional networks

are signing on to grow the community of interconnected and peering networks.

Wall Street Exchange picks Etisalat for managed WAN

Wall Street Exchange, a leading money exchange company in the UAE, has partnered with Etisalat to leverage on the telco's managed data center and network services, helping them focus on their key business objectives and adapt business changes efficiently across the organization. Wall Street Exchange operates across 34 branches in the UAE. The company's infrastructure comprised of an in-house solution located within the office premises, which managed the entire network. Partnership with Etisalat for Managed WAN services will help the financial organization to meet the growing demands of its business and expand capabilities. It will also help the firm to reduce capital investments and at the same time gain control of the entire architecture. The central site including Disaster Recovery (DR) is now collocated at Etisalat's datacenter. The partnership entails that the two central sites and all branches run on Etisalat's managed WAN service. The other services include Managed Dedicated Internet Access (MDIA) for mission critical applications meeting their uptime and bandwidth commitments and Zee Scaler's Managed web/email security solution. Sultan Bin Kharsham, Managing Director of Wall Street Exchange said: "As an organization we were looking to make a long term investment to adapt to changes and rapidly decreasing the lead time to market. The partnership with Etisalat gave us access to their national and international high-speed networks and enabled our IT team to focus on the core business. "In today's dynamic business environment, the financial sector is vulnerable to market changes which reflect immediately on business performance. Therefore, it has become imperative to make continuous investments in upgrading our infrastructure and integrating the latest technologies in our network." Wall Street Exchange hosts the private cloud at Etisalat Data Center in the UAE as the on-demand subscription service. This enables budget control as well as provides business continuity and mobility access without worrying about service availability and outages. Salvador Anglada, Chief Business Officer at Etisalat said, "Our partnership with Wall Street Exchange proves Etisalat's capabilities to work

across verticals and meeting the growing needs of businesses with the latest solutions and technologies. Organizations today realize the relevance of working with service providers in managing their data and networks. We have seen the increasing trend of adopting cloud services and collocation models among enterprises in the country. Our experience with several organizations has encouraged industry peers to follow this development, enabling them to focus on their new business initiatives." Wall Street Exchange network of branches in the UAE is connected to their central and DR sites via Etisalat's fully managed MPLS based solution.

Huawei inks deal with African Telecommunication Union

Huawei and the African Telecommunication Union (ATU) have inked a Memorandum of Understanding (MOU) aimed at enhancing information and communication technology (ICT) capability and literacy in Africa. It was revealed within the report that Huawei Technologies Kenya Country Manager, Dean Yu, told a media briefing in Nairobi that his firm will provide technical support to African states to increase their uptake of ICT. "We will leverage our resources in order to introduce the most innovative solutions to Africa," Yu said on the sidelines of the ICT media training workshop. According to the report, under the agreement, the Chinese technology giant will share its vast technical know-how in order to spur ICT development on the continent. Huawei has presence in most of the 54 African states where it works closely with telecomfirms to expand coverage mobile telephony. "Our aim is to ensure that Africa is able to bridge its digital divide," said the country manager, adding that ICT can be used to improve the efficiency of all sectors of the economy. "There is a positive correlation between level of ICT use and the level of economic development," he added. ATU Secretary General Soumalia Abdoulkarim said that Africa, whose broadband penetration rate stands at approximately ten percent, is the lowest of any region in the world, and Huawei will help African states develop and implement their national broadband strategies. The reports revealed that African states have set a goal of achieving universal broadband

access by the year 2020. Abdoukarim said that some countries such as Kenya are leading the continent in broad connectivity through national programs. The secretary general urged governments to provide incentive for the private sector to rollout broadband, especially to the rural areas. "Through use of broadband, the education and health sectors can reach the level of developed countries," he said.

VIVA Bahrain partners with MBC Group to launch mobile payment for SHAHID Plus Service

NVIVA has announced its partnership with MBC Group which allows its customers to pay subscription fees of SHAHID PLUS, the latest by SHAHID and the number one Premium Video on Demand (VOD) service in the Arab world. The agreement became possible because of the strategic partnership between VIVA, MBC Group and Intigral, the Middle East leading digital hub. Through this agreement, VIVA's customers will be able to enjoy receiving the paid package from SHAHID PLUS to watch the latest movies without commercial breaks along with premium TV shows and series for BD 2 only. Payment will be settled without a credit card, but directly charged to the customers' monthly post-paid bill or debited from their prepaid account. Andrew Hanna, VIVA Bahrain Chief Commercial Officer, said: "We are pleased to continue bringing the latest developments and most innovative services to our customers, by offering them new technology and products catering to their needs with valuable services. Our partnership with MBC Group enables us to continue to provide yet another value-added offering coupled with international content that will help our customers stay connected to their favorite shows and enjoy the best of entertainment even while on-the-go". Abe Naga, Head of Digital at MBC Group added that: "We're delighted to partner with VIVA Bahrain to present SHAHID PLUS service to its customers and offer them a different payment method. SHAHID PLUS became as a value added service to SHAHID, the most popular and successful Premium Video on Demand (VOD) Service in the Arab world, which we are proud of and continue working to bring all that, is new." SHAHID is the number

one Premium VOD Service in the Arab world that allows watching Arabic movies and programs via online streaming service owned by MBC Group, and air various TV shows and series. VIVA aims to always provide its customers with a complete data solution that allows customers to enjoy uninterrupted data streaming, and its commitment to offering its customers the latest in the world of technology.

Ooredoo demonstrates 4G technology leadership in Oman

Ooredoo continues to demonstrate technology leadership in the Sultanate with the recent acquisition of new spectrum frequency (LTE 800), to provide significant additional capacity and improved 4G coverage. The Company was the first in the country to deploy 3G at the 900 lower frequency, which resulted in an uplift in coverage and improved battery life and performance inside buildings for customers. Now they are doing the same with their new 800 spectrum for 4G services; providing customers with 4G coverage equivalent to the current 3G coverage. With this exciting development, customers can expect to see the same leap in coverage and performance as they did when Ooredoo first launched their 3G services on the 900 spectrum 2013. Greg Young, CEO of Ooredoo, said "Not only will this cutting edge development bring significantly improved coverage and speed, but it will eliminate any related battery life issues that were previously associated when enabling 4G on smart devices. Where previously phones would switch between 3G and 4G as customers moved to different locations, the new continuous 4G 800 coverage means that phones are not constantly switching between 4G and 3G and battery consumption is reduced. Customers will not need to worry about battery life and do not need to switch off 4G, making their whole experience with Ooredoo second to none." Current data service coverage is provided via LTE 1800 (4G) and UMTS 900 (3G) spectrum. Ooredoo are now adding LTE 800 to a number of sites around Muscat which effectively doubles capacity and brings improved 4G technology to Oman for the first time.

PTCL partners with Google for Tech Mela festival

Pakistan Telecommunication Company Limited (PTCL) has announced a partnership with global search giant Google for Tech Mela, a first of its kind online shopping festival in Pakistan. Designed to promote the growth of online shopping in the country, the 10-day festival features products by Google's leading retail partners. Acknowledging that increased Internet penetration is vital to the growth of e-commerce in Pakistan, PTCL is leading the way by offering special discounts for its products and services through Tech Mela. Products carrying discounts include the premium Charji wireless broadband, the EVO Wingle range and the recently launched Charji Tab. PTCL is also taking online orders for the newly launched Hi Speed No Limits triple play (TV, broadband and telephone) package. PTCL has extended its existing partnership with retailer Daraz.pk to offer doorstep delivery for Tech Mela. "Convinced that online commerce in Pakistan is on the rise, PTCL is geared up to enable e-commerce retailers in Pakistan and is also looking at this channel to interact with our customers," observed Mr. Adnan Shahid, Chief Commercial Officer at PTCL. Customers purchasing the Charji Tab will also get a complimentary pre-installed Sygic car navigation app providing turn-by-turn voice guided navigation all across Pakistan along with a free car mount and charger. Those buying Hi Speed broadband also have the option of a free PTCL Smart TV app. E-commerce growth in Pakistan has lagged behind the larger Asian region as consumers have traditionally been more comfortable buying things from brick and mortar stores. However, with the advent of targeted online advertising provided by Google, consumers can be made aware of products as and when they search for them. And with easy shopping and payment processing services such as those offered by Daraz.pk coupled with reliable e-commerce fulfillment services such as those offered by TCS, online shopping in Pakistan is poised to take off. As the largest ICT service provider of the country, PTCL continues to innovate and bring exciting new products and services for its esteemed customers. Customers can enjoy this limited time offer on Tech Mela till the 21st of September 2015.

PCCW unveils ONTAPtv online video service for South Africa

PCCW Global has launched its ONTAPtv video-on-demand (VOD) service for South Africa, claiming to be the first to offer à la carte content packages and an offline viewing option. The now live service from the Hong Kong telco also boasts a lower price point than local digital streaming rivals MTN FrontRow, Vidi and the Naspers-owned ShowMax. ONTAPtv will provide over 2,500 hours of TV shows and films with immediate effect, including series from local broadcaster SABC plus international content from Warner Bros, MGM and BBC Worldwide. ONTAPtv.com also offers Chinese content from PCCW's Hong Kong IPTV service now TV. More content will be added over time. The company will also sponsor the development of local dramas in South Africa's Maxum Media Accelerator project, set to be available later in 2016. "This partnership demonstrates our commitment to the development of exciting local content, whilst helping to grow the South African film and entertainment industry," said Lindsay Servian, head of ONTAPtv. Customers will be able to stream content to up to three connected devices, or download TV shows or films that then remain available offline for 48 hours. "This is a major VOD innovation in South Africa, and will, we believe, greatly expand the number of customers who will now be able to enjoy the service, and at a highly affordable price," added Servian. ONTAPtv's packages start at monthly subscription of ZAR39 and rise to R89pm for the Mega Pack. Customers can also rent movies from ZAR15 for 48 hours. AlwaysOn will also provide data package deals when the VOD service is used at AlwaysOn Super Wi-Fi locations nationwide. For example, a 15GB package valid for 30 days will be available for ZAR29 and a similar 50GB package for ZAR59. ONTAPtv is available in South Africa through the company's website or by downloading the app for both Android or iOS-based digital devices.

Ooredoo wins Best Operator and Best Telecom CEO

Ooredoo is celebrating a double success this week, winning "Best Operator"

at the Telecoms World Middle East Awards 2015 and "Telecoms CEO of the Year" for Dr. Nasser Marafih at the CEO Middle East Awards in Dubai last night. The company has delivered impressive results in 2015, reaching an all-time high of more than 114 million customers across its footprint, increasing its leadership position in data services (now worth 34% of the Group's revenue), and enhancing its portfolio of solutions for business and enterprise customers. In addition, the company has taken the lead in network performance, delivering 4G+ in Qatar and Kuwait, 4G in Oman, Tunisia, and the Maldives, and providing 3G services in Algeria and Myanmar. Dr. Nasser Marafih, Group CEO, Ooredoo, said: "Both these awards demonstrate the incredible contribution that Ooredoo companies are making to people's lives across our footprint in the Middle East, North Africa and Southeast Asia. By investing in network excellence and a superior customer experience, we have positioned our operations as leaders in data services, B2B innovations and supporters of people's digital lifestyles." Ooredoo received the top prize of "Best Operator" at the prestigious Telecoms World Middle East Awards held in Dubai on Monday, coming first against a field that included some of the leading operators in the region. Judges selected Ooredoo based on its impressive performance across a range of metrics, including growth in customer numbers, provision of cutting-edge network technology, particularly 4G, 4G+ and Fibre, and the company's success in supporting a full range of innovative smart services for healthcare, transportation, entertainment and urban development. At the CEO Middle East Awards, Dr. Nasser received his award in front of an audience of the Gulf's top executives. The awards panel noted Ooredoo's success in creating a truly global brand under his stewardship, rolling out "Ooredoo" in Qatar, Algeria, Tunisia, Kuwait, the Maldives, Oman and Myanmar. In addition, Ooredoo's success in the greenfield market of Myanmar and the launch of Ooredoo Business, a dedicated unit focusing on innovative services for companies, were cited as key success factors. Ooredoo has continued to add to its tally of awards in 2015, with operations across its footprint winning a range of commendations. Most recently, Ooredoo Myanmar won an 'Honorary Mention Award' in the 'Best

Contact Center' category at Customer Experience Asia Excellence Awards in Singapore.

du brings UAE's Smart City vision closer to reality with new breed of network

du has successfully tested the first true Internet of Things network (IoT) in the Middle East, a key component of smart city which can revolutionize how our cities and resources are managed. The network can relay data from sensors countrywide, enabling smarter management of a vast array of city resources such as smart street lighting, waste management and parking. Critically, the network's low energy consumption also prolongs sensor battery life by years. Carlos Domingo, Senior Executive Officer, New Businesses & Innovation, du, said: "This is a defining moment in the UAE's Smart City transformation. We need a new breed of 'sensor friendly' network to establish the Smart City ecosystem - thanks to du, this capability now exists in the UAE." IoT is a future internet evolution that works by inserting technology into objects so they can relay data and interact with their surroundings, enhancing the performance of urban services - making every day things 'smart'. Existing networks are not designed to transmit data between millions of sensors across large areas. IoT requires a new type of low power consumption, long range network, which prolongs battery life of sensors, making it both cost and energy efficient. This revolutionary technology was recently showcased to Dubai's community and business leaders as part of du's growing capabilities as a Smart City enabler. Carlos added: "Dubai is our home and we want to lead its transition to become a better, smarter city for all to enjoy. Today we've shown how our network capabilities and digital know-how can deliver the Smart City ecosystem Dubai needs. We will not stop in Dubai, our deployment will continue country-wide throughout the UAE." To implement its IoT network, du has chosen LoRa, a technology promoted by the LoRa Alliance, an open, non-profit association initiated to standardize networks globally to enable IoT, machine-to-machine (M2M), Smart City and industrial applications. LoRa adds to du's

growing portfolio of advanced network technology, developed through an ongoing commitment to invest in innovation. Earlier this year, du became one of the few operators in the world to deploy LTE Advanced (LTE-A) across its network. In August last year, du also announced that VoLTE technology had successfully been installed and tested over its commercial LTE network.

Huawei signs five-year "FMO" IT operation contract with Ooredoo Kuwait

Ooredoo Kuwait and Huawei have signed a "Future Mode of Operation (FMO)" IT and Network Managed Services contract at the 2015 Huawei Global Service Forum. Under the terms of the contract, Huawei will provide managed IT and network operations, network performance management and service quality improvement for Ooredoo Kuwait. Huawei will provide an ICT Converged Operation solution to manage IT and telecom equipment through converged operation processes, resources and tools. The aim is to help Ooredoo Kuwait achieve digital transformation, operational excellence and to improve the customer experience. "The FMO project is significant for Ooredoo," said Prabjit Singh Panesar, Ooredoo Kuwait Deputy CTO & Director of Service Assurance. "It will accelerate the speed of our response to the market, improve network performance and quality of service, and enhance the end-user experience. We are pleased to be working with Huawei as their products and service capabilities in the IT and telecommunications fields will help us achieve ICT transformation." "For us, Huawei's ICT infrastructure transformation service has been one of the company's key strategic investments, which will strengthen our position as a strategic partner for operators," said Dr. Howard Liang, Senior Vice President, President of Global Technical Services, Huawei. "It is an honor for Huawei to be selected as the FMO project supplier for Ooredoo Kuwait. The cooperation between Ooredoo and Huawei now extends from purely CT to encompass IT, and we are committed to delivering the ICT converged operation Ooredoo Kuwait needs to achieve operational excellence and digital transformation." The cooperation between Huawei and

Ooredoo is an important milestone for Huawei as a Managed Services provider rapidly investing in the IT field. Huawei has become a global strategic outsourcing partner for operators working to achieve digital transformation. To date, Huawei has accumulated more than 40 ITO contracts, serving over 20 operators in more than 20 countries. Huawei is now a strategic outsourcing partner for operators around the world.

GBI extends relationship with Ciena

Gulf Bridge International (GBI), a service provider that operates an integrated network connecting the world to the Middle East, signed an agreement with Ciena® (NYSE: CIEN) to deploy its Converged Packet-Optical Networking solutions that will support the region's increasing demand for connectivity. Speaking on the occasion of the deal, Abdulla Al Rwaili Executive Vice-Chairman and Managing Director of GBI said, "We have recognized that the ever-increasing bandwidth usage in the region has created a demand for customized services and greater network upgrades. The investments in greater network intelligence will help us deliver on the current and future needs of our customers and partners." Ed McCormack, Vice President and General Manager of Submarine Systems at Ciena, comments, "With Ciena's solutions underpinning GBI's submarine and terrestrial cables, GBI will have a fully optimized end-to-end network. This massive capacity enhancement also means that GBI is well positioned to accommodate growth and help its customers facilitate the demand for high-bandwidth applications, such as those needed for video and cloud services." Deploying Ciena's solutions will enforce GBI's advanced portfolio of enterprise and wholesale Ethernet services and will enable network flexibility and scalability. The deployment of upgrades of 100G and 200G wavelengths on GBI's submarine segments, is believed to be the first deployment of such technology in the region which will enable unprecedented capacity and will increase GBI's network capacity twenty-fold. This capacity enhancement will enable GBI to offer differentiated, premium business and wholesale services across the region, connecting the world to the

Middle East. Ciena's 6500 Packet-Optical platform, equipped with the new WaveLogic 3 Extreme chipset, combined with GeoMesh submarine solutions and E-Suite integrated packet switching, will add more intelligence to the GBI network, as well as improved ease of operations, maintenance and future capacity expansions, including an option to perform future upgrades. More importantly, GBI's latest infrastructure investment validates the organization's results-oriented vision and mission to meet the demands of customers and partners and to deliver on the company's promises to deploy state-of-the-art technology and high-bandwidth services.

Zain crowned 'Best Telecom Brand' at Telecom World Middle East Awards 2015

Zain Group, a leading innovator of mobile telecoms in eight markets across the Middle East and Africa region, is proud to announce that its brand has been identified as the telecom 'Best Brand' for 2015 at the prestigious Telecoms World Middle East Awards held at a gala event in Dubai this week. Additionally, Zain's market leading operation in Jordan was awarded two accolades as the 'Best Operator Network' for its recent



rollout of 4G LTE in the Kingdom and 'Best Customer Experience' service. Impressively, for a second consecutive year the honor of the 'Best Brand' was bestowed on Zain Group by a panel of judges assembled by Terrapinn, the organizers of the annual Telecoms World Middle East Conference and Awards. The awards recognize outstanding performance in 10 key areas throughout the Middle East telecommunications industry and place a spotlight on key players that

have contributed to making the sector one of the most dynamic and vibrant in the world. Zain Group CEO Scott Gegenheimer was the keynote speaker at the event where he elaborated on Zain's strategy for delivering a digital lifestyle to its customers. Zain has been a recipient of the 'Best Brand' award on numerous occasions since the introduction of its inspiring brand in 2007. This year's success has been driven by the tangible developments occurring at the company, where heavy investment in network and upgrades, and technology innovation is positively impacting customer mobile experience. Additionally, Zain's Corporate Sustainability programs and eye-catching marketing campaigns have captured the attention of the whole region, reflecting the company's aspirations. Commenting on the award of the latest accolade, Zain Group CEO Scott Gegenheimer said, "We would like to express our gratitude to the judges for their belief in and support of the Zain brand. To us, our brand is a living, breathing entity that needs to be nurtured and preserved, and we are always appreciative when we receive positive confirmation from our industry on the work we are doing." Gegenheimer continued, "Our brand represents a promise that we are offering the best solutions to our customers and are looking to deal with all of our various stakeholders in a professional and highly effective manner. Being recognized as the 'Best Brand' drives us to re-commit to our brand promises and look to continue to foster a 'Wonderful World.'" In May, Zain operations in Kuwait, Bahrain, Jordan, and its managed operation in Lebanon, scooped three major innovation prizes at the well-respected 2015 Global Telecoms Business (GTB) Innovation Awards held in London. In 2014, Zain's flagship operation in Kuwait was recognized as the 'Best Telecom Operator for 2014' from industry journal CommsMEA and business weekly Arabian Business, while Zain Iraq was awarded the 'Telecom Operator of the Year' distinction at the 2013 Arabian Business Achievement Awards and at the 2013 CommsMEA Awards. These awards highlight the scope of success Zain Group operations continue to generate, as they follow a strategy to deliver a sway of digital lifestyle products and services to their customers, while helping uplift communities and economic development across the region.

Omantel voted the most trusted brand in the telecom sector

Omantel, the Sultanate's most valuable brand in Oman according to the annual brand survey of Brand Finance, has been voted as the Most Trusted Brand in the telecom sector in the Sultanate. The selection was announced by Oman Economic Review, a renowned local English magazine in its September issue as part of the brand survey conducted by the magazine in collaboration with the Arab Research Bureau. Moreover, all the participating categories have named Omantel as the most trusted brand in the telecom sector. The participants at the survey have been divided into two main groups (senior management and executives) and six sub groups. The senior management group included two categories namely the Omanis and expats. The executive group included four main categories namely Omanis, expats, males and females. When it comes to telecom services, there has been a consensus among all groups that Omantel is the most trusted brand in the Sultanate; up to 10 points higher than the first runner up. The selection reflects the confidence vested by more than 3 million customers in Omantel products and services. Commenting on this achievement, Talal Said al Mamari, CEO Omantel said 'This is another milestone achievement that reiterates Omantel's leadership of telecom sector in the Sultanate. The achievement is a result of accumulation of confidence that has been reinforced and integrated over the past decades. 'We are delighted to learn that there has been a consensus among all groups that Omantel is the most trusted brand in telecom. This is itself a strong evidence of our customers' confidence in our products and service. The selection will urge us to double our efforts to ensure that all our customers enjoy good experience with us". he furthered. 'Our new strategy is focused around capitalizing on the opportunities generated by digital transformation to provide an experience that exceeds our customers' expectations. Omantel has already launched a number of initiatives that contributed to the enhancement of the services provided to Omantel customers". Al Mamari

concluded. Over the last few years, Omantel brand received a number of regional and international awards. Besides maintaining its position as the most valuable brand in Oman since 2010, the brand has been selected as the best brand in the telecom sector as per the outcomes of the annual survey conducted by Business Today magazine. Omantel also captured a number of other prestigious regional and international awards.

PCCW to launch VOD service in South Africa

Hong Kong's PCCW has confirmed its international operating division will launch a video-on-demand (VOD) service for South Africa to compete with Naspers's recently launched ShowMax. The service will complement PCCW's connectivity services in Africa, and more information will be provided at a press conference in Johannesburg, the company said in a statement. PCCW Global already manages satellite capacity over Africa and provides access to multiple cable landing stations, providing fibre connectivity to 40 African countries. By entering the VOD space, the Richard Li-controlled telco will take on the recently launched ShowMax service, which delivers a range of international and local TV shows and films across multiple connected devices for ZAR 99 a month. Netflix also plans to launch in South Africa before the end of 2016. South Africa has been plagued with unreliable broadband connectivity; however companies such as Naspers and PCCW are getting ready for Internet improvements and a subsequent growth in the country's appetite for VOD. This month Telkom SA unveiled plans to connect one million South African homes with fiber which, says ShowMax spokesperson Richard Boorman, "is exactly the kind of development that will spur a change in viewing habits and a move to on-demand viewing". PCCW, which operates IPTV service nowTV in Hong Kong, bought a majority stake in mobile VOD service Vuclip in March. The company includes Africa in its expansion plans and currently operates in six countries in Asia and the Middle East.

Etisalat launches enhanced "managed services portal" to offer businesses real time network information and support

Etisalat's managed services business customers can now enjoy an enhanced experience with seamless access, real time information of their networks and support, as the telco revamps its managed services portal (managedservices.etisalat.ae) and adds dynamic new features. Etisalat's new managed services portal is designed to provide business customers an around-the-clock 360-degree visibility with geolocation, providing a constant flow of information and support for their networks. . Constant business growth and expansion demands that IT Heads have real time updates of their network and services in order to make informed ICT decisions. Etisalat has therefore enhanced the managed services portal to help IT decision makers gain insight into their business' network performance, outage updates and consequently manage network issues efficiently.

Arab mobile content delivers mobile payments to customers with SLA Mobile's Direct Operator Billing Solution

Arab Mobile Content, an end-to-end value-added service (VAS) solutions and content provider, focused on the Middle East and North Africa regions, has partnered with SLA Mobile, a global provider of managed Digital Service solutions, to deliver Direct Operator Billing to customers. "Arab Mobile Content sources, creates and develops content for mobile operators and as such this partnership provides the unique opportunity to satisfy subscriber content needs through Direct Operator Billing", said Amelia Power, Head of Sales and Marketing at SLA Mobile. Direct Operator Billing allows users to pay for digital goods and services by charging the amount to their monthly phone bill or prepaid credit. Direct Operator Billing is one of the safest online payment

solutions, as it does not require bank account or credit card information. Amr Qanadilo, CEO at Arab Mobile Content commented, "Partnering with SLA Mobile presents us with the opportunity to widen our customer base by exposing our products and services to Mobile Operator subscribers via Direct Operator Billing." Amr went on to add, "By initially connecting to Zain subscribers in the Middle East, Direct Operator Billing will drive new revenue streams for Arab Mobile Content."

Orange launches the first ever mobile crowdfunding platform in Africa

Orange is launching Africa's first mobile crowdfunding platform in Côte d'Ivoire: Orange Collecte. With this platform, private individuals and charities can finance their personal (weddings, birthdays, etc.) and charitable projects (fundraising, events, projects, etc.) by making an appeal through their mobile network. This novel solution is open to all Orange Money customers in Côte d'Ivoire. Contributors will

Orange Money customers create their fundon Orange Collecte by dialling #144*8# on a mobile or going to collecte.orange.com. A charity that wants to start a fundraising campaign must have created an Orange Money account dedicated to the charity. As for contributors, they choose a campaign, indicate how much they want to pledge and then confirm it. In turn, they can invite their contacts to also take part in the collection. At the end of the collection, the amount raised is directly transferred to the user's Orange Money account. In sub-Saharan Africa, where less than 24 % of the population has a bank account, whilst more than 80% of inhabitants have a mobile phone, Orange Money offers mobile financial services that can be used with simplicity and ease to carry out remote transactions securely. Opening an Orange Money account is free for Orange mobile customers. The system is very easy to use: deposits or money transfers are made via the standard GSM network. With more than 15 million customers and more than €4.5 transferred in 2014 in 13 countries, Orange Money is a great success.



be able to make their donations using their Orange Money electronic wallet. The Orange Collecte platform was developed in partnership with HelloAsso. Through this partnership, Orange is getting involved with the social innovation approach instigated by HelloAsso. The Orange Collecte initiative embodies the Group's desire to support innovative solutions that meet its customer's basic needs, while also illustrating the issue of developing innovative financial services in Africa, which is part of the operator's strategy.

Qualcomm Announces Mobile Anti-malware Technology Utilizing Cognitive Computing

Qualcomm says that its forthcoming chips will include a real time, on device machine learning designed to support detection of zero day malware threats. Snapdragon Smart Protect is also the first application to utilize Qualcomm Zeroth technology, augmenting

conventional anti-malware solutions by supporting on device real-time malware detection, classification and cause analysis using an advanced cognitive computing behavioral engine. Snapdragon Smart Protect complements existing signature-based anti-malware solutions by analyzing and identifying new threats prior to new signature updates. OEMs and mobile anti-malware application providers can also use Snapdragon Smart Protect API's to perform valuable causal analysis, offering users and the mobile industry real-time information of identified threats. "With consumers storing more personal information on their devices, data leakage incidents and malware are on the rise. Qualcomm Technologies is uniquely equipped to address these issues with our ability to access lower layers of the software stack and dedicated security hardware, to create a device-based, behavioral analysis approach for mobile security," said Asaf Ashkenazi, director, product management, Qualcomm Technologies, Inc. "Snapdragon Smart Protect supports deep on-device monitoring for nearly instantaneous notifications of detected privacy violations and malicious activity while also providing great system performance and battery life." QTI is working in close collaboration with OEMs and mobile security providers like Avast, AVG and Lookout to make Snapdragon Smart Protect capabilities available within commercial anti-malware apps. Snapdragon Smart Protect is a feature within the Qualcomm Haven security suite, which also offers Qualcomm SecureMSM technology, a hardware-based security protection technology designed to make Snapdragon processors resistant to targeted attacks. Qualcomm Haven also features Qualcomm Snapdragon Sense ID 3D fingerprint technology, Qualcomm Snapdragon StudioAccess content protection and Qualcomm SafeSwitch technology. Snapdragon Smart Protect is expected to be available in consumer devices in 2016, in conjunction with the Snapdragon 820 processor.

Ooredoo Expands Business Offering Across its Global Footprint

Ooredoo continues to see strong returns from its focus on providing innovative business services across the Middle East, North Africa and

Asia, realizing growing returns in a diverse range of markets, from Algeria through to Indonesia and Myanmar. In December 2014, the Group announced a strategy to invest significantly in the competencies and resources necessary to build its position in the business-to-business (B2B) segment. With B2B services now representing a record 16 percent of total Group turnover, as of its most recent financial results, it's a strategy that is returning significant dividends. Dr. Nasser Marafih, Group CEO, Ooredoo, said: "Ooredoo positions itself to be the partner of choice for a full range of businesses, from home offices through to the largest enterprises, and we are offering an innovative range of mobile and fixed solutions to support business customers. With an estimated potential of nine million companies across our footprint, we are developing significant experience and a deeper understanding of business needs, which in turn is driving the development of a new range of smart services." In particular, Ooredoo has seen significant returns from the small and medium enterprise SME sector, which provides the backbone of many economies across Asia and the Middle East. Building on its experience in this area, Ooredoo has launched a range of special packages and services specifically designed for smaller companies. In Ooredoo's home market of Qatar, the company has pioneered a range of services aimed at the SME market, including its Ooredoo Web Builder solution, which enables companies to develop mobile-friendly websites using high quality templates, with no design or technical knowledge required. In addition, Ooredoo Business Fibre service, which enables smaller companies to connect to the internet at speeds that were traditionally restricted to large corporations, has delivered strong results. In Kuwait, Ooredoo has launched the Shamel Business Plans, a market-changing service that is designed to meet the needs of different business segments. Through this offer, business owners and entrepreneurs can ensure uninterrupted communication with free calls throughout business hours, and benefit from outstanding value on roaming, data, international calling, and a large variety of the latest mobile handsets. Ooredoo Kuwait has also launched Ooredoo Business and Ooredoo Business Pro, which are special packs that include discounts on calls, and bundles of free minutes,

SMS, and internet for businesses with ten employees or fewer.

PTCL promotes research and invention in sports engineering

Pakistan Telecommunication Company Limited (PTCL) senior management visited the NUST School of Electrical Engineering and Computer Science (SEECs), Islamabad to appreciate the achievement of three brilliant students of the university, who presented their research paper at MIT USA - one of the most prestigious universities of the world. Abdullah Ahmed, Muhammad Jazib Khan and Muhammad Asawal have developed a device for cricketers to regularly gauge their body movements and angles while bowling. The creative device will provide an accurate, easy and affordable solution for the cricketers to monitor and improve their bowling actions. These students were supported by PTCL to present their research paper in USA. The delegation, which was led by Syed Mazhar Hussain, Chief Human Resource Officer PTCL included Amjad Iqbal, EVP Talent Management & Learning PTCL and Ahmed Jalal GM Training & Development PTCL. At the ceremony held at NUST, Syed Mazhar Hussain, CHRO PTCL said that PTCL is striving to provide new learning opportunities and capacity building for the talented youth of the country through various initiatives. He added that development of youth is the single most contributing factor towards national prosperity and growth and PTCL is committed to extend full support to the institutions and students for unleashing their potential. Dr. Syed Mohammad Zaidi, Principal SEECs, NUST while acknowledging PTCL's contribution said, "This initiative that PTCL undertook is motivating for other organizations and shall serve as a step towards enhancing the capacity of our youth and provide much needed international exposure. These collaborations also broaden the vision of students and expose them to real time market situations." PTCL team also visited the state-of-the-art labs and research facilities of NUST. The event concluded with a commitment to continue the journey for opening up new vistas and knowledge creation. PTCL is engaged in promoting the sports facilities in the country and encourages the youth introducing revolutionary inventions and bringing good name for Pakistan.



▼ REGIONAL NEWS

REGIONAL UPDATES

Ooredoo completes national fiber backbone across Oman

Ooredoo Oman has announced the completion of its national fiber-optic backbone, which spans almost 5,500km, to provide high speed reliable connectivity to residential and businesses customers across the Sultanate. The company says it is able to offer a robust, cost-effective data highway, which connects all regions of Oman and complements its international submarine fiber-optic links and the 'Superfast Fiber' fiber-to-the-home (FTTH) service, as well as its range of solutions for connecting businesses. 'This is not simply an upgrade to legacy technology, it is an entirely new and unparalleled network development,' noted Ooredoo Oman's CEO Greg Young, adding: 'We are no longer dependent on using the fiber or transmission from other operators and can single-handedly ensure that we are able to avoid network outages or interruptions to service, which could impact the country significantly. Oman is no longer dependent on just a single fiber network and this will bring huge benefits to the country in terms of security, dependability and attractiveness to foreign investors, as well as government organizations and established businesses.' Ooredoo says that its total investment in network modernization has reached OMR124 million (USD320.9 million) and covers 99% of the population.

Big Data is receiving investigation and investment

Due to several more recent developments, Big Data is experiencing a surge in popularity and is receiving investigation and investment. In fact, as many enterprises embark on a digital transformation of their organizations, it has become clear that factoring in the capabilities to safely, accurately and productively store, process, manage, analyze and leverage data is a crucial element. Nine out of ten C-suite executives today consider data to be the fourth factor of production, as important as the traditional three pillars of land, labor and capital. It, therefore, comes as little surprise that global investment in Big Data is expected to grow by 17 per cent CAGR to reach \$76bn by the end of 2020. Organizations are turning to the masses of information available to them to improve the customer experience, minimize risk, optimize operations, enhance business models and, more accurately, track market trends. But where has all this underlying data come from? The answer is largely unsurprising. More people than ever before have access to the internet, or own a mobile or computing device, and many have several devices transmitting data all at once. At the same time, data storage options offer ever-greater capacity at lower cost, assisted by the advent of advances such as data lakes and the Cloud. New

regulation has also had a role to play. In the financial sector, for example, being able to identify, capture and leverage data is vital if reporting requirements are to be met. In all industries, customer expectations for tailored and personalized services have soared, alongside heightened demand for visibility over their accounts, transactions, delivery of goods and convenience of use. This means companies need to store and quickly access vast amounts of data around these services, effectively in real-time. At the same time, banks and corporate may find themselves up against the limits of their legacy systems - requiring further technological investment. These drivers and challenges are contributing significantly to corporate and banks' intensified focus on Big Data, but so, too, is the potential for reward. For example, Big Data has the potential to improve business performance by an average of 41 per cent. With such a clear incentive, adoption rates are higher than ever, with adoption typically broken down into four stages: education - focusing on knowledge gathering and market observations; exploration - developing strategy and roadmaps based on business needs and challenges; engagement - piloting big data initiatives to validate value and requirements; and execution - deploying two or more big data initiatives, and continuing to apply advanced analytics. When surveyed, 47 per cent of respondents felt that they were in stage two, (exploring and strategizing), with only six per cent positioned to execute Big Data initiatives. However, the coming years should see most corporate attempting to understand and utilize Big Data to improve their businesses. In the Middle East in particular, as it cements its position as an international financial hub, Big Data capabilities should prove to be a key differentiator of trade performance and financial services in years to come, from tackling cybercrime and money laundering to improving KPIs. In addition, the Middle East is a gateway to Africa in terms of both trade and banking, where many developing nations - free of legacy systems - will be in a position to leapfrog developed countries' technologies thanks to quickly-implemented access to internet and mobile devices.

Egypt has largest customer base in Arab region electronics market

A report by PAYFORT considered Egypt the largest market for electronics trade in the Arab region in terms of the number of online buyers. The number of Egyptian online buyers exceeded 15.2 million people, according to the company, while Saudi Arabia came in second place with 10.6 million online buyers, followed by Emirates with 6.8 million online buyers. Lebanon came in fourth place with 2.6 million buyers, then Kuwait with 2.4 million buyers through the Internet, while Jordan took the last place with 1.6 million buyers. According to the report, Egypt is the largest Arab country with access to the Internet, where there are more than 40.7 million Internet users. After that, Saudi Arabia comes in with 17.4 million users, then Emirates with 8.2 million users. The report said that the three countries will lead the change in the e-commerce industry in the Arab world during the coming period. As for the payment methods, 72% of the Egyptians who buy through Internet prefer to pay in cash and only 22% prefer to pay through credit cards, while 2% use CashU services, and 1% use PayPal services. Meanwhile, the majority of the customers who buy online in Egypt are low-income people, where the clients with monthly income of less than \$286 represent 21% of the total online buyers, while people with a monthly income of \$286-799 represent 37% of Egyptians.

Saudi Arabia is leaping into Gigabit era

Following the first 4G LTE mobile networks launched in 2011, Saudi Arabia has seen these high-speed services adopted as the standard of choice for mobile connectivity. Since then the Kingdom has stayed on the forefront of technological transformation. That benchmark is moving swiftly, however. Many experts predict that mobile traffic could swell by a factor of 10 by 2018. This will introduce a significant gap between the public's mobile needs and the ability of current technologies to support that breadth of connectivity. That will in part be driven by more devices in the

hands of consumers, with the Saudi market accounting for over 50% of the mobile-connected devices shipped across the GCC in Q1 2015, and the region's own mobile devices market expected to increase by almost 30 percent by 2019. Thankfully that gap is less daunting as we approach another historic leap in mobile innovation. Expected to be launched in 2016, the commercialization of 4.5G mobile broadband will inaugurate the Gigabit era--enabling people to enjoy increasingly connected and intelligent lives. Yet are we ready for this technological leap? If so, when will it come, and what new opportunities will it bring to local communities? In its simplest form, 4.5G represents the necessary bridge between today's 4G mobile services and a long-term vision for 5G connectivity. Real 5G is still far away from commercial availability. We're talking a decade out, most likely to emerge between 2020 and 2030. As the public's thirst for mobile is rapidly expanding, the 4.5G standard is the only solution to meet these demands. In specific, the Saudi public will be able to enjoy enhanced mobile services marked by three key upgrades on connections, capacity and latency. As local industries begin to reap the benefits of machine-to-machine communication, 4.5G will open the door to the Internet of Things by increasing the number of possible connections to around 100,000 connections in a single square kilometer. That's 100 times more connections than most 4G networks. Moreover, 4.5G actually seeks to increase the throughput rate of today's 4G networks by a factor of 50. This gives consumers the chance to experience things like 4K video and virtual reality in their true form. Third, mobile connections will become accessible faster. Network responsiveness--or "latency"--on 4.5G will be reduced to just 10 milliseconds. Applications for remote education, banking, healthcare, even automatic driving can literally be processed faster than the blink of an eye. Within Saudi Arabia, the advancement of 4.5G technology is perhaps no more apparent than in the parallel development of the Kingdom's "Economic Cities" agenda--diversifying the local economy with an emphasis on knowledge-driven industries. It's no surprise that these connected and intelligent urban landscapes will hinge on the availability of mobile broadband. It is estimated that 90% of cars will be connected to the Internet by 2020. By 2025, 100 billion connections will

be generated globally due to enterprises becoming enabled by the Internet. Experts predict that smart homes and smart commercial buildings alone will represent 45% of total connected things in use in 2015, with that number rising to 81% by 2020. One of the immeasurable values of the birth of 4.5G is that it also gives clear direction to organizations as they grow their digital footprint. It's one standard that builds on existing investments and paves the way for future innovations. The enhanced capacity, number of connections, and latency of 4.5G will be essential in meeting these new urban realities. Huawei's own Center of Excellence for Smart Cities & IoT is currently assisting governing bodies and telecom operators to drive new 4.5G initiatives from concept to reality. What many people don't realize today is just how soon this transformation could take place. It is estimated that 4.5G will take off around 2016. Numerous trials are already under way in both mature and developing countries worldwide. Leading operators in the Kingdom are already announcing plans for 4.5G networks to be commercialized as soon as the standards are released by industry regulators. Huawei has been working with these regulators and local operators on a 4.5G vision that leverages experiences in LTE systems and which taps the \$600 million that we've already allocated for 5G research by 2018. To address the challenges brought about by our society's digital transformation, mobile networks must be able to facilitate broader capacity, more connections, and instant service access. It is with this ambition in mind that we can look forward to 4.5G services in the very near future.

Etisalat sells more Nigeria towers to IHS

Next Five Years to Be 'Make or Break' Moment for Technology Adoption, from Smart Content Sharing to Real-Time Evaluation, says GITEK Technology Week 2015 Dubai, United Arab Emirates - The next five years will be pivotal for GCC educators to adopt the next generation technology that can enhance student

learning, affordability, and regional competitiveness, industry experts announced today in the build-up to GITEK Technology Week 2015. A recent GCC education industry report by Alpen Capital reveals the region has an annual spend of USD 150 billion towards the education sector, with technology-driven education a priority for boosting innovation, meeting students' demands and tackling unemployment. With the region digitizing and seeing strong broadband connectivity, key educational technologies include free Massive Online Open Courses (MOOCs), which provide access to educational seminars beyond geographical borders; 3D printing for in-classroom prototypes; virtual and augmented reality classroom laboratories; and wearables, according to a new Frost & Sullivan report. On the back end, institutions are deploying complex learning analytics for individualized learning strategies, and utilising cloud campuses to host electronic resources and mobile-enabled projects. "Youth across the Middle East are integrating technology into their daily lives, and the next five years will be the make-or-break moment for the region's educational institutions to harness students' potential with technology," said Trixie LohMirmand, Senior Vice President, Exhibitions & Events Management, Dubai World Trade Centre (DWTC). "From smart content sharing to real-time evaluation, educators and training providers attending GITEK Technology Week 2015 can discover technologies that allow for greater personalization, more affordable learning and training the next generation of leaders in the Smart tech and Internet of Things-based workforce," added Trixie LohMirmand. The GCC has taken the regional lead in the Middle East region. Technology-driven education initiatives include the UAE's Smart Learning Initiative, which aims to provide personal tablets to all K-12 government schools by 2017, and Qatar's Supreme Education Council's e-Bag project, which provides students and teachers with tablets to enhance learning and reduce school bag weight. Already, over 90 per cent of GCC educational institutions use laptops and tablets, while 60 per cent have Bring Your Own Device policies for students, according to IDC. Jacky's Business Solutions LLC, an end-to-end solutions provider for major corporations in the region, as the 3D Printing Headline Sponsor for GITEK Technology Week 2015, is

demonstrating the latest educational developments using 3D printers in the classroom. "3D printing technology is at the forefront of providing students with a competitive advantage by fuelling creative ideas, developing their design skills, and bringing concepts to life. GITEK Technology Week serves as an ideal platform for us to showcase the most sophisticated 3D innovations from leading 3D printing companies. Middle East educators can use this technology in the classroom allowing students to gain experiential learning through prototypes from science models to industrial design," said Ashish Panjabi, COO, Jacky's Business Solutions. Complementing the exhibition will be the GTX TechVerticals conference on education, at which international education visionaries will discuss the latest trends in technology in education. Global academic institutions attending include the University of London, the UK's Cedars School of Excellence UK, King's College London and Leeds Beckett University

Emirates Data Clearing House launches first GSM-Architecture based Wi-Fi hub in the region

Emirates Data Clearing House (EDCH), the region's largest mobile services Data Clearing House provider, announced a partnership with Accuris Networks to launch the region's first WRiX-capable (Wireless Roaming Intermediary Exchange) Wi-Fi Hub for International Wi-Fi roaming and domestic mobile data offload services. Service providers worldwide are adding Wi-Fi access to their roaming packages to enhance user experience and lower costs for subscribers as they travel globally. By adding a Wi-Fi Roaming Hub, EDCH will be able to offer its service provider customers a seamless and cost-effective method to access global Wi-Fi connectivity. The EDCH Wi-Fi Hub, built on Accuris Networks' AccuROAM Platform, addresses key issues faced by service providers in delivering Wi-Fi roaming services, such as the time-intensive process of identifying Wi-Fi providers, negotiation of terms, and implementation of Wi-Fi services. Crucially, the solution also provides a GSM-architecture-based Wi-Fi service using seamless SIM-based authentication, largest range of user equipment & multi-vendor Wi-Fi network support, carrier wholesale

rates, and GSM-based clearing & settlement. This facilitates quick service provider setup, swift service delivery, and a simplified user experience. "Offering the Hub in this region and connectivity to other Wi-Fi Hubs in other regions will allow EDCH to extend our footprint towards true seamless and cost-effective global Wi-Fi connectivity", said Nassir Salim, General Manager of EDCH. "We chose to build our Wi-Fi Roaming service on Accuris Networks' Platform to benefit from the company's deep industry knowledge and connection "EDCH is the regional leader in providing innovative cloud-based solutions for more than 50 carriers. This partnership is strategic to Accuris Networks towards delivering regional Wi-Fi service using our globally proven solution architecture and carrier-grade service characteristics", said Jeff Brown, CEO of Accuris Networks. "In using the AccuROAM Platform, EDCH extends our growing number of service providers taking advantage of a worldwide operator-based Wi-Fi roaming network." The signing of this partnership took place at the Telecom World's Middle East event, which is being held on September 14-15 in Ritz Carlton, Dubai.

Libya plans to rebuild economy through broadband

Libya plans to rebuild its economy one broadband cable at a time, according to the chairman of its state-owned telecoms company. As talks continue between United Nations peacekeepers and rival factions battling for power, the country is already paving the way for the estimated \$3bn sector to thrive. Last month, a deal was completed to transfer more than a billion dollars' worth of telecoms assets from the country's sovereign wealth fund, the Libyan Investment Authority (LIA), to the Libyan Post, Telecommunications and Information Technology Company (LPTIC). Under the restructuring, the country's shareholdings in mobile and fixed-line network operators across Libya and Sub-Saharan Africa — most held within LAP Green, the LIA's \$1bn-plus telecoms subsidiary — will be consolidated into a portfolio of

three companies from their current eight, growing LPTIC's holdings to in excess of \$10bn. LPTIC intends to develop the portfolio by expanding existing operations, opening up the domestic sector to foreign investment and acquiring new operations as time goes on. LPTIC's portfolio includes the two state-owned mobile operators, Libyana and Al Madar; four fixed-line operators, Hatif Libya, Al Jeel, Libya International Telecoms Company and Libya Telecoms & Technology Company; a real estate operator called Al Bouniya, and the Libyan Post company. Libyan assets generate around \$2bn a year of revenue, says Gergab. Beyond this, LPTIC has shareholdings in two of the region's biggest subterranean cable companies — EIG, which delivers services across the Mediterranean between Europe and Africa, and WIOCC, which delivers capacity around Africa. There is also a portfolio of investments, mainly in private equity, across Canada, the UK, the Middle East and Europe. They include shares in Dubai-based satellite communications firm Thuraya, Borsa Italiana-listed Retelit, Measat in the UK and a majority share in a telematics company in Canada. Investments outside Libya represent around 5 percent of the total portfolio. The first plank of the strategy is to improve service provision in Libya. Projects that have already commenced are work to upgrade the two mobile operators to 4G — "Contracts have been signed and we are in the final stages of mobilising vendors," says Gergab — and a partnership with UAE telecoms giant Etisalat to build an 'iCity academy' in Libya for up to 10,000 people. It will be similar to Etisalat's facility in Dubai that provides training across a range of telecoms-related business, technical and consultancy services to build expertise. The company is also rolling out a fibre to the home (FTTH) network. It envisages connecting up every home, office and other building in Libya with the country's extensive subterranean broadband network. This is a key part of LPTIC's strategy to shift mobile penetration from being 95 percent voice and 5 percent data, to 70 percent voice and 30 percent data, Gergab says, and increase internet speeds. According to a report by Akamai last July, Libya had one of the slowest average internet speeds in the world, at 0.5 Mbps. "The [broadband] fiber infrastructure of Libya covers the entire country — around 20,000km of fibers connecting all the main cities. We have huge capacity through these underground cables, more than we can absorb in Libya, so we would

look to sell surplus to the rest of the Africa at a later stage," he says. There are also plans to resurrect the tender for a management services contract related to Libya's two main mobile operators. This was something Etisalat had been involved in until the process was halted in 2013 amid escalating political instability.

Kuwait telco Zain eyes technology investments - CEO

Kuwait's Zain will investment more in technology firms in parallel industries and is considering buying into two digital advertising companies, the telecom operator's chief executive said. Zain, like many Gulf telecoms operators, has suffered as subscriber growth stagnated and replacement services such as instant messaging and Internet-based calls replaced higher-margin text messages and conventional phone calls. These trends prompted Zain to seek partnerships and stakes in web-based companies. Last week, it announced a link-up with Uber Technologies Inc and has also invested in three venture capital funds focusing on digital services. "It's not about financial gain, (these) give us easier access to see what the new business models look like," Scott Gegenheimer, Zain Group chief executive, told a conference in Dubai. "They're more agile than a lot of the telecom operators. We don't have the time and skill sets to do this in house." He said Zain was interested in "smart city" initiatives, online advertising and television services. "Digital advertising could be interesting - we're looking at two companies right now," said Gegenheimer. Data provides about a fifth of Zain's revenue and this proportion is likely to increase. "The amount of data we're giving away in our packages is not sustainable in the long run. In Europe, the U.S., the price for 1 or 2 gigabytes is the same as you pay in Saudi Arabia for 500 gigabytes," said Gegenheimer. "We have to get some of these packages under control ... because (otherwise) you're not going to be able to monetise the data." Zain, Kuwait's top mobile company by subscribers, has operations in eight countries including Sudan, Iraq and Saudi Arabia. Its Sudan division, which accounts for a quarter of Zain's customers and a fifth of revenue, made a half-year net profit of \$78 million, up 30 percent year-on-year. That ended a sustained earnings slump and Gegenheimer attributed

the turnaround to a more stable Sudanese pound and easing local inflation. "We've hedged a lot of our loans so don't have as much problem as before," Gegenheimer said. Sudan's inflation rate slowed to 11.3 percent in August from 14.1 percent in July.

Around 75% of UAE residents have a 4Mbps connection

The UAE has the fastest Internet speeds in the Arab world. According to the latest Akamai State of the Internet report, three out of four UAE residents (75 per cent) with broadband connectivity now have a 4Mbps or better connection, ranking it among the Top 50 in the world (#44). The UAE is at a par with the US, where 76 per cent have broadband speeds of 4Mbps or above (ranked at #43), and ahead of countries like Ireland (#48), France (#49), Australia (#50), Italy (#52) and India (#99). The 4Mbps adoption rate in the UAE surged by 73 per cent year-on-year in the first quarter of 2015 compared to the same quarter last year. In fact, the UAE led the Europe, Middle East and Africa (Emea) region in quarterly growth rates of 4Mbps Broadband Adoption, with a 21 per cent increase in the first quarter of 2015 compared with the fourth quarter of the year.

Orange Launches Global Lab in Egypt with Nokia Networks

Mobinil, part of Orange Group, has hosted Orange Global Operational Skill Center for the deployment of Nokia's radio technologies. Within this role, Mobinil will test and validate Nokia's new products for all affiliates of Orange worldwide, and help them ensure superior voice and data services for their customers. For this purpose Mobinil has launched a global lab in Cairo that includes Nokia's latest network hardware and software. This lab will perform all the needed testing for Nokia's new technologies. The two companies celebrated the launch of this new start-of-the-art center recently in Cairo in the presence of Yves Gauthier, Mobinil CEO; Eng.

Yasser Shaker, Mobinil Technology VP; Thierry Balouka, Head of Orange Global Customer Business Team at Nokia Networks; Mounir El Aichaoui, Head of North Africa Market Unit at Nokia Networks; and Hani Adel, Head of Mobinil Customer Team at Nokia Networks. On this occasion, Eng. Yasser Shaker, Mobinil Chief Technology Officer, said: "We are proud to host this global center as part of Mobinil in Egypt, and thanks to our long-term partner Nokia Networks for the excellent support of its committed experts and services. The launch is a testimony to the world-class indigenous talent pool we have here locally that supports the introduction of advanced 2G, 3G, 4G/LTE broadband technologies, not only for our network in Egypt, but also for Orange's networks across the world. Thierry Balouka, Head of Orange Global Customer Business Team at Nokia Networks, said: "The Orange Global Skill Center is not only a testimony to our support of the Orange Group and its affiliates around the world, but also to the long-term strategic partnership between Nokia and the Orange Group. We provided our most advanced broadband infrastructure, software and services to the lab and will continue to provide full support in joint tests and validations to ensure that Orange Group operators get the best service delivery possible."

Etisalat Egypt targets 10% growth next year: CEO

Etisalat Egypt aims to achieve growth rates of up to 10% in the Egyptian market over the next year, according to Engineer Saeed Al-Hamli, CEO of Etisalat Egypt. In an interview Al-Hamli said that the growth rate targets come as the company plans to invest at least EGP 10bn over the next five years. Al-Hamli revealed that his company will invest approximately EGP 2.5bn annually to modernize its networks infrastructure. This move seeks to improve the level of service provided to customers, while the company plans to raise its investments in the local market to EGP 5bn annually. The Emirates Communications Group considers its branch in Egypt, represented in Etisalat Egypt, as one of the most important companies in the group that owns operators in 19 countries across the world. Etisalat Egypt is one of the best three companies in the group. The Egyptian market is a big one. It is diversified

and highly competitive, and is thus full of investment opportunities that will enable companies to provide multiple services that benefit consumers. At Etisalat, we seek to provide the latest technologies that add to our customers and meet their needs. We are leading the market in the field of data, in which the company sought to intensively invest since it started its operations in the market. Recently, we have invested in the area of cloud computing, to be the first company in the Egyptian market that offers this service to its customers. The telecommunications market is currently highly competitive, and this is a positive factor as it falls in the interest of consumers. The most important thing the Egyptian market needs right now is the improvement in the level of services provided. There are several challenges in the sector that must be eliminated. The most important of these challenges is the presence of disputes between companies working in the sector, especially in the area of infrastructure, and the issues that arose from steps taken by Telecom Egypt (TE) towards improving it. The company has already obtained a new credit facility, in addition to the current one, worth EGP 7bn, in order to cover our growing needs for the development and continuous expansions of our networks. The required amount to finance the company's expansion plans is linked to the size of continuous developments and the need for them, especially in the field of technology. There is a growing need for new financing with the launch of new services, such as the 4G services. It is expected that at least EGP 10bn would be invested over the next five years, and this amount may increase if attractive investment conditions were available, supported by encouraging laws and legislations. Etisalat Egypt is one of the best models of third entrants in the world, in terms of operational results achieved. The company is seeking to achieve high growth rates that guarantee it an influential presence in the Egyptian market, which is part of the group's strategy. We aim to reach a growth rate of 10% next year.

Omantel maintains position as sultanate's most valuable brand

Omantel has seen remarkable growth that helped the company maintain its position as Oman's most valuable brand, according to a recent study by

Brand Finance, a leading brand valuation consultancy. Omantel moved up eight positions to 33rd among the 50 most valuable brands in MENA region, a press release said on Tuesday. As per the annual survey published recently by Gulf Marketing Review, the value of the Omantel brand stood at US\$479mn with a growth by more than 50 per cent compared to last year when the brand value was estimated at US\$319mn. The growth reflects the improvement in the Omantel brand and its ability to be among the top growing brands in the region. Omantel also received a 'very strong' (AA-) rating in terms of brand strength. This achievement sheds light on the status of Omantel as the leading telecom service provider in the sultanate and the biggest Muscat Securities Market (MSM) listed company. It also comes in recognition of the high quality telecom services provided by Omantel to its individual and corporate customers as well as its wide footprint in the country. Commenting on the achievement, Talal al Mamari, CEO of Omantel, said, "We are pleased with this achievement, which proves the company's leadership not only in telecom but in the business sector, in general." "This achievement not only reiterates Omantel's leadership as a brand, but gives an indicator of customer satisfaction and loyalty," he added. "Being the leading brand in Oman puts further responsibility on us to continue improving our services to ensure that our customers are enjoying better experience," he added. As per Brand Finance, the calculation of the brand value is done by using the royalty relief methodology, which determines the value a company would be willing to pay to license its brand as if it did not own it. This approach involves estimating the future revenue attributable to a brand and calculating a royalty rate that would be charged for the use of the brand. The monetary value of the brand is calculated in terms of: Brand strength index; royalty rate; and, future brand revenues. This method is considered as the most reliable as it is consistent with the tax and judiciary uses as the calculation is carried out by an independent agency. The assessment process is also consistent with ISO standards.

Libya investing USD56m in Uganda's UTL

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

UAE heads global 'Internet of Things' expert group

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

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

PTA Takes Initiative to Save WLL Industry

At last, we see a ray of hope as the Telecom regulatory body Pakistan Telecommunication Authority (PTA) spun into action to revive the drowning Wireless Local Loop (WLL) industry that was poised to die leaving behind not only people jobless but also government loosing over billion Rupees in bad debt never to be recovered as was in the case of the banks a decade back. The icing on the cake is that it will give some breathing



space to the struggling national company PTCL who will take over management of the company that also needed spectrum to survive in the highly competitive mobile broadband market. The PTA decision also paves way for spectrum re-farming making precious spectrum available for future

auction to the current mobile operators. In short it is a win-win for all- specially the consumers, the government and most of all the industry which is crying hoarse on the inflated taxation regime by Federal Board of Revenue. This is a historic moment for the industry and the country that finally some Government body took upon itself and decided to revive a sick Industry using its mind and power vested to it for good rather it's mechanical process and lethargic attitude to do nothing as is the trend with government run institutions. The decision to revive the WLL is a ray of hope for other struggling telecom industry and maybe a lesson for regulatory bodies such as PMDC, HEC, NEPRA, OGRA etc., that they need to do more than just sit back in their posh offices and let consumers and industry suffer at the cost of their ineptness. The WLL operator DVcom litigation remained pending before different courts of law for over a decade. Finally, the Honorable Islamabad High Court remanded the case back to PTA, with the directions to decide the matter afresh and give opportunity of hearing to DVCom. It is important to note that due to minor issues in roll-out obligations with PTA and the ministry in the last 6-7 years the company was forced to accumulate huge debt as late payment charges that exceeded even the principal amount to be paid in lieu of Spectrum acquired. PTA quite recently in a post remand hearing restored license of DVCom that completed its obligations and cleared outstanding dues amount to the tune of around Rs1.43 billion. PTA also allowed change in management of a licensee/ telecom company under the regulatory framework so that the spectrum given is put to good use. PTCL- the State owned company is reportedly taking over the company and its asset and also future liabilities. PTCL has also shown interest to acquire some other WLL companies that are struggling to survive that could provide a very healthy trend for companies to avoid possible defaults on their obligations. Meanwhile, the PTA is also reported to make arrangement that the WLL industry re-farm the existing spectrum given to them sometime back that is globally used for 3G/4G Services that shall pave way for the current mobile network

operators to have more spectrum available to them in near future in view of the fast growing 3G/4G subscribers in the country. It is also important to note that some rouge elements in the industry that are not happy with the current positive developments on the ICT scene have tried to make this development like the last year 3G/4G auction look controversial and leaked uncooked stories in the press.

Alfa Group applies for indirect control of Turkcell

Russian-backed Alfa Group has applied to Turkey's Competition Authority (RK) to take indirect control of Turkish mobile operator Turkcell from Cukurova Holding, reports Hurriyet Daily News, citing a statement from RK, in a move which continues a long-run feud between Alfa and Cukurova for ownership of the company. An unnamed source is said to have informed Reuters that the battling companies have been in discussions regarding the matter: 'This latest move must be a tactical or formal application. Alfa made an offer to Cukurova last March ... Cukurova said the [offer could not be evaluated] as it has applied to an international arbitrator in London.' However, the same source disclosed that in order to take control of the Turkish cellco, Alfa also needs to acquire permissions from public authorities, including the RK, the market watchdog (SPK) and the communication board (BTK). Arbitration sessions are now expected to take place next spring. As at August 2015 Turkcell's shareholder structure was reported as follows: Turkcell Holding owns a 51.00% stake, TeliaSonera owns 14.02%, Cukurova Holding owns 0.05%, and the remaining 34.93% of shares are publicly traded on the New York Stock Exchange (NYSE) and the Istanbul Menkul Kiyemetler Borsasi (IMKB). Turkcell Holding is itself owned by TeliaSonera (47.09%, giving it a 37.09% overall stake in Turkcell) and Cukurova Holding (52.91%, for a 26.98% overall interest). Cukurova Holding is majority controlled by the Turkish Cukurova Group (51%, or a 13.76% overall stake in Turkcell), with 18.5% held by Alfa Group (4.99% overall stake in Turkcell). As previously reported by CommsUpdate, in March 2015 Alfa reportedly bid USD2.8 billion for the disputed 13.76% Turkcell stake. Alfa offered USD54.9 million per share for 51 of Turkcell's Class B shares,

which were being held by state-run Ziraat Bank as collateral for a loan to Cukurova. TeleGeography notes that the USD2.8 billion bid represents a significant premium on the USD1.56 billion price previously attached to the stake.

Telecom Egypt cuts costs to replace to fibre optic cables

Telecom Egypt, the country's landline monopoly, considers slashing the total investment cost to replace the copper cables with fiber optic cables below 6 billion Egyptian pounds (US\$766.5 million). The plan to replace copper cables with fiber optic cables aims to raise the network efficiency and provide high-quality communication services. The budget of the project will be re-studied once so as to reduce the costs.

STC planning to invest US\$1bn in networks in H2 2015

Saudi Telecom Company (STC) is planning to spend SAR3.9 billion (USD1.04 billion) on enhancing its networks in the second half of 2015, STC's chief executive Khaled al-Biyari told Reuters. The outlay mirrors STC's capital expenditure in the first six months of 2015, while also bringing full-year CAPEX to a four-year peak. 'STC is continuing to invest in both mobile and fixed [networks] and modernizing our IT systems – we want to ensure our network is second to none ... The growth in data traffic we're experiencing is unmatched ... which is putting stress on the network.' Biyari also confirmed that STC's 35%-owned subsidiary Oger Telecom was seeking to sell its majority holding in South African mobile operator Cell C. 'Optimizing the portfolio is something that is at the top of my agenda,' said Biyari. 'We want to ensure our investment portfolio brings in value.' As previously reported by CommsUpdate, in February 2015 it emerged that Oger was planning to divest its stake in Cell C, though the valuation of the cellco and its current debt were cited as the main issues blocking Oger's exit from the company. TeleGeography notes that in January 2015 Oger's parent STC wrote down a ZAR1.2 billion (US\$102 million) investment in Oger Telecom, attributing the impairment to its investment in Cell C.



REGULATORY NEWS

REGULATORY UPDATES

RCom edges closer to towers sale

Reliance Communications is closing in on a sale of its towers business Reliance Infratel, with four bidders still in the frame, it emerged this week. Unnamed sources cited by the Economic Times on Thursday claimed the Indian operator is holding final talks with private equity firms Farallon Capital, Carlyle, Tillman Capital, as well as American Tower. According to the report two suitors want to acquire Infratel outright, while the other two want to buy 51%. "RCom would prefer to completely exit the tower business even if the deal comes at a slightly lower valuation as it needs the funds to reduce its debt," said the ET's source. At the end of June, Reliance Communications' net debt stood at 385.96 billion rupees (€5.15 billion). Reliance Infratel is 96% owned by RCom and is reportedly valued at INR200 billion-INR240 billion (€2.67 billion-€3.2 billion). It boasts 45,000 cell towers. According to the ET's source, the due diligence process is expected to be complete in two weeks, followed by final binding bids and financial commitments in a further two weeks.

Telcos miss out on \$18bn due to inefficient WiFi use

XCellAir claims better spectrum utilisation, interference management could help operators attract new customers. More efficient use of WiFi spectrum and smarter interference management could yield a US\$17.9 billion windfall for mobile operators, claimed WiFi quality-of-experience (QoE) specialist XCellAir on Thursday. "It's in operators' interest to take more control of WiFi, especially in locations where they want to provide more of a service as opposed to just purely offloading customers," said Todd Mersch, co-founder of XCellAir. "Not only does that make sense, in that your customers will have a better experience, but it also can deliver revenue." XCellAir set about illustrating just how inefficiently WiFi is being used today by recreating a typical urban public WiFi deployment using 250 access points around its offices in Montreal, Canada. Analysing the performance of the hotspots revealed that 92% of them do not switch to a different channel despite performance degradation caused by interference from neighboring hotspots. Furthermore, on average, two channels worth of bandwidth remain unused at any given time, resulting in around 100 Mbps of untapped capacity. XCellAir then commissioned Real Wireless to work out the potential cost-savings and revenue opportunity for a mobile operator that addressed these inefficiencies. The research firm modeled its calculation on

an hypothetical mobile operator with a 25% share of the market, a limited amount of LTE spectrum, and an extensive WiFi footprint in New York City. "We were pleasantly surprised how much financial benefit there was," said Mersch. Real Wireless found that over five years, the operator would save \$71 million by delivering capacity at a lower cost. "Another \$303 million essentially comes from being able to generate new revenue," said Mersch. "A large percentage of that was being able to capture more price sensitive users" attracted to services like voice over WiFi (VoWiFi). This would have the effect of increasing the operator's market share by 3% over the five-year period, he explained. Scaling Real Wireless' model to the world's top 10 financial centres – London, Tokyo, Singapore, Hong Kong, Shanghai, Paris, Frankfurt, Beijing, Chicago, and of course New York – that combined cost saving and revenue opportunity comes to \$17.9 billion. Unsurprisingly, XCellAir claims to hold the key to making WiFi work harder for operators. Its cloud-based software-as-a-service (SaaS) enables any service provider with WiFi assets – be it an ISP, telco, or cableco – to monitor interference and spectrum utilization across its WiFi footprint. It can automatically make the adjustments necessary – such as switching channels or tweaking power levels – to improve performance. XCellAir has struck up relationships with unnamed cablecos in the U.S. and has met with operators and cablecos in Europe, as well as telcos and ISPs in India and the Far East. "We're starting trials right now with a view to starting commercial deployments in the middle of next year," said Mersch.

Ofcom gives nod for Qualcomm 1400MHz spectrum trade to Vodafone UK, Three UK

UK telecoms regulator Ofcom has published a decision confirming it will allow the UK subsidiary of Qualcomm to transfer two tranches of spectrum

in the 1400MHz band to Vodafone UK and Hutchison 3G UK (Three UK), respectively. In late-August this year Ofcom received a notice of the proposed spectrum transfer from Qualcomm, in which the latter said it was looking to hand over the rights and obligations related to the 1452MHz-1472MHz block to Vodafone UK, while doing the same for the 1472MHz-1492MHz block to Three UK. As part of its examination of the proposal Ofcom launched a consultation which ended on 11 September 2015. It was revealed that just a single submission had been made, expressing 'the view that the transfers would not harm competition and had the potential to make good use of the spectrum'. As such, the regulator has said it does not consider the spectrum transfers 'raise sufficient competition concerns to justify further analysis', in light of which it will grant its consent to each of the proposed trades and will issue the relevant new licences to Vodafone UK and Three UK once Qualcomm surrenders its concession.

Italian government will not veto Wind, 3 merger

Mobile merger still requires regulatory backing, but shape of market could act in its favor. The Italian government will not stand in the way of the planned merger between Wind and 3 Italia. The cabinet agreed to a proposal by the Ministry of Economic Development not to exercise its right of veto in the case, the government announced on Tuesday. However, the state has asked the companies to provide certain information regarding the impact of their tie-up. Amongst other things, the firms must confirm that they do not have plans that would compromise national security or the continuity of services, such as moving management functions overseas, for example. Vimpelcom's Wind and CK Hutchison-owned 3 Italia signed a €21.8 billion merger agreement in August. The pair intend to create a 50:50 joint venture to create a stronger competitor in the Italian mobile market. Together the pair have around 31 million mobile customers which could put them ahead of market leader TIM, with 30.1 million as of the end of June. The firms are much smaller than Telecom Italia on the fixed-line side though, which could be an area of focus for the new entity on completion of the merger, given the growing trend towards bundled and converged service offerings. In the meantime though, the operators need to secure regulatory

approvals for the deal. The Italian government may have given the go-ahead, but the companies still need to win over European competition commissioner Margrethe Vestager, who recently succeeded in preventing a mobile merger in Denmark on the grounds that the market needs four mobile network operators to remain competitive. The situation in Italy is more akin to the the U.K. than it is Denmark though. The Wind/3 Italia tie-up will leave three players of roughly equal size; the market's third operator, Vodafone, had 24.9 million customers at mid-year. And Canning Fok, co-CEO of CK Hutchison is confident of seeing through both his Italy and U.K. deals – the company is in the process of buying O2 UK from Telefonica – to completion. He told the FT recently that, when it comes to the regulatory situation, he is confident of coming up with a solution "in which everyone is comfortable."

Russian telcos line up for spectrum auction

Regulator announces names of participants for 1800 MHz sale that is due to get underway next week. Russia's four main mobile operators will take part in the auction of 1800-MHz spectrum due to take place next week, the regulator announced on Tuesday. Roscomnadzor said it has processed applications from MTS, Vimpelcom, MegaFon and Tele2, and all four will be able to participate in the auction. It also revealed that the auction will be carried out electronically. In July the regulator announced that the auction of airwaves in the 1710-1785 MHz and 1805-1880 MHz bands will take place on 29 September, and shared reserve prices for the available frequencies. The state is selling off spectrum in nine regions and has divided the bandwidth into 10 lots, all at different price points. The lowest starting price is half a million roubles (just under €8,000 at July exchange rates) for 1 MHz of paired spectrum in the Komi-Permyak Okrug of Perm Krai, while 15 MHz of spectrum in the republic of Dagestan starts at RUB240.4 million (€3.8 million). There are no restrictions on what type of mobile services the spectrum can be used for. While the 1800 MHz band was previously set aside for voice communications, Roscomnadzor expects the winning bidders in this auction will use the frequencies for LTE.



Telenor drops Uninor brand in India

Norwegian operator targets India's unconnected population, reaffirming its position as a value player. Telenor announced that it is rebranding its Indian operations as part of a renewed focus on positioning the company as a low-cost player. The operation,



which has sported the Uninor brand since it launched services in late 2009, will become Telenor India. Essentially, it appears that Telenor is going after people who have yet to sign up for mobile services, who will therefore be low-ARPU users. "This is about more than changing a brand name," said Telenor CEO Sigve Brekke. "By taking a broader, value-driven position, Telenor India will appeal to new audiences with innovative services and a customer-first approach," Brekke said, adding that a large proportion of the Indian population remains unconnected to "modern" telecom services. Teledensity in India stood at almost 80% at the end of June, falling to just 48.7% in rural areas, according to the latest figures from the Telecom Regulatory Authority of India (TRAI). There were just over 1 billion telephone subscribers in the country at that date, the regulator's numbers show, the vast majority being mobile customers. With a population of around 1.25 billion, and taking into account that official figures do not factor in multiple SIM ownership, that leaves a significant market to aim for, in volume terms at least. "Two decades in Asia and six years in India have taught us how to make mobile communication services available to even more people," Brekke said. "Our colleagues in India have shown the way and it feels both natural and like a pleasure to attach the Telenor name directly to the local operations," he added, pledging to "continue to deliver value for money," in the market.

TRAI to firm up position on net neutrality

Amid continuing debate over net neutrality, TRAI Chairman R S Sharma today said the regulator would firm up its position on the issue in a couple of months. The telecom regulator is now processing nearly 1.8 million comments received on the consultation paper pertaining to the regulatory framework for OTT (Over the Top) players like WhatsApp and Skype as well as on net neutrality. Against the backdrop of debate on net neutrality, the government had said that it would take a structured view on the matter after getting the TRAI report. "We had a large number of comments, 1.8 million to be precise, and these comments are being processed. Simultaneously, the Department of Telecom also brought out a paper on net neutrality on which some comments were received. "So, essentially we will take this entire debate forward and in a couple of months we will be able to firm up the position on net neutrality," Sharma said here. He was speaking to reporters on the sidelines of a Skoch summit. Net neutrality implies that equal treatment be accorded to all Internet traffic and no priority be given to an entity or company based on payment to content or service providers such as telecom companies, which is seen as discriminatory. The debate on net neutrality was sparked off a few months ago after some telecom operators and Internet companies came up with plans that offer preferential treatment in using the Internet. Earlier, a Department of Telecom (DoT) panel had suggested a 'regulatory framework' for Internet calls. The suggestions of the panel, if implemented, may lead to free calls offered by apps like Skype and WhatsApp coming to an end. The panel has proposed regulation of domestic calls on Internet-based apps like Skype, WhatsApp and Viber by putting them on par with services offered by telecom operators. In July, Telecom Minister Ravi Shankar Prasad had said that DoT panel report was not the final view of the government and a "structured" decision would be taken only after looking into views of all stakeholders. "After the TRAI report, we will take a structured view. Thereafter, Cabinet will take a final decision," he had said.

Policy proposes storage of all messages on WhatsApp, SMSs et al for 90 days

Government of India has proposed to make storage of all encrypted messages, including SMSes and emails, sent from any mobile device or computer mandatory for 90 days under the New Encryption Policy. The draft of New Encryption Policy proposes that users of encrypted messaging service on demand should reproduce same text, transacted



during a communication, in plain format before law enforcement agencies and failing to do so may lead to imprisonment of the user as per the provisions. The proposed policy, issued by the Department of Electronics and Information Technology, would apply on everyone including government departments, academic institutions, citizens and for all kind of communications -- be it official or personal. Generally, all the modern messaging services like WhatsApp, Viber, Line, Google Chat, yahoo messenger etc, come with high level of encryption and many a time security agencies find it hard to intercept these messages. "All information shall be stored by the concerned B/C entity for 90 days from the date of transaction and made available to Law Enforcement Agencies as and when demanded in line with the provisions of the laws of the country," the draft said. The draft has defined 'B category' as all statutory organizations, executive bodies, business and commercial establishments, including all Public Sector Undertakings, Academic institutions. The 'C category' as per the draft are all citizens including personnel of government and business

performing non-official or personal functions. In case of the user has communicated with foreigner or entity abroad then the primary responsibility of providing readable plain text along with the corresponding encrypted information would be that of the user in the country. Besides this all service providers located within and outside India that use encryption technology for providing any type of services in India must register themselves with the government, as per the draft. The draft proposes to introduce the New Encryption Policy under section 84 A of Information Technology Act 2000. This section was introduced through amendment in 2008. The sub-section 84 C that was also introduced through the amendment has provision of imprisonment for violation of the act. "Encryption products may be exported but with prior intimation to the designated agency of Government of India. Users in India are allowed to use only the products registered in India. Government reserves the right to take appropriate action as per Law of the country for any violation of this Policy," the draft said.

Turkcell looking to acquire some TeliaSonera Eurasia assets

Turkish telco keen to buy Swedish partner out of Fintur, which controls four mobile operators in the region. Turkcell on Wednesday announced that it is looking at its options regarding the possible acquisition of some of TeliaSonera's assets in the Eurasia region, assets in which it already holds a stake. The Turkish mobile operator said that it is working on taking control of Fintur, the holding company through which it and

Geocell in Georgia, Kazakhstan's Kcell and Moldovan operator Moldcell. The announcement came after TeliaSonera revealed that it plans to exit its Eurasian operations with a view to focusing on the European market. TeliaSonera holds a 58.55% stake in Fintur, with Turkcell owning the remaining 41.45%. Fintur owns the four aforementioned mobile firms, which all effectively operate as TeliaSonera subsidiaries; their results are consolidated under TeliaSonera's and they follow the Swedish telco's branding style. "In order to explore our strategic options to acquire the remaining stake in Fintur, we have initiated the process to appoint a strategic and financial advisor," Turkcell said. It noted that taking over the four mobile operators is "in line with [its] growth strategy in the region." In June the Turkish operator took sole control of Ukrainian mobile operator life:, agreeing to pay US\$100 million for 44.96% stake in Euroasia Telecommunications Holding that it did not already own; Euroasia owns 100% of Astelit, which operates under the life:) brand. At the time, new CEO Kaan Terzioglu said the Ukraine would serve as a test bed as Turkcell moves to strengthen its international operations. TeliaSonera, meanwhile, is also a Turkcell shareholder. Earlier this year Turkcell's shareholders finally reached agreement on the payment of dividends for the five years between 2010 and 2014, something that helped TeliaSonera improve its free cash flow in the second quarter.

India government policy on spectrum trading, sharing could boost service quality

With the government approving spectrum trading and spectrum sharing policies, the country's telcos finally have other avenues to acquire the much needed radiowaves outside of the auction mechanism—a move expected to significantly improve the quality of services as well as the financial health of the sector. So far the only way a company could get more spectrum was by bidding for it in an auction that the government conducts. The problem with that system has been long waits for the telcos for significant chunks of airwaves to be up for grabs—either because a current holder's lease on it expired (licenses typically last 20 years

after which that spectrum is auctioned afresh) or because the government refarmed the bands and made available unused (and unsold) bits and pieces. Thanks to the change in these two policies, telecom operators can now beef up their holdings to offer better, and new, services. One band that nearly all operators are likely to want more of its 1800MHz—that's the band on which they can offer both 2G and 4G (FD-LTE) services. That apart, these companies may also go after individual bands in specific circles and fill up the gaps in their current basket, across technologies and circles. (2G technology allows basic voice services, and the subsequent 3G- and 4G-based technologies allow for increased data capacity and speeds.) For instance, Bharti Airtel Ltd, India's largest telco by subscribers, revenue and total spectrum holding, could get the 2300MHz in circles where it does not have the airwaves to offer 4G (TD-LTE) based wireless data services. Bharti has a block (20MHz) of 2300MHz in nine circles, compared to Reliance Jio Infocomm Ltd that holds 20MHz of that band in all 22 circles. In key markets like Gujarat and Western Uttar Pradesh, the telco has no 2300MHz or 900MHz spectrum, while in the Kerala and Punjab circles, the telco has no 3G (2100MHz) spectrum. However, Bharti could run the risk of hitting the spectrum cap limits for cumulative holdings across the country, if it does acquire the necessary spectrum in all these bands. Telcos like Vodafone India Ltd and Idea Cellular Ltd are mainly focused on 3G services, and analysts expect them to increase their spectrum holding in the 2100MHz band, either via the next auction or by pooling resources (sharing) with each other and Bharti. The 3G based services are fast becoming the minimum norm of data services across the country, making it increasingly important to be available in every circle. Vodafone has the necessary 2100MHz spectrum in 15 circles while Idea has it in 11 circles. The government is expected to auction 15MHz of 3G spectrum across most parts of the country next year. R-Com's right to use its mainstay 800MHz band spectrum is due to start expiring in 2021, just six years from now, potentially reducing its appeal to possible sharers. RComm has also announced it is in talks with Sistema Shyam Teleservices (that runs the MTS brand in nine circles). This is mainly to ensure business continuity for the company that failed to get



TeliaSonera own four mobile operators in the region: Azercell in Azerbaijan,

replacement spectrum in the last auction. Another option for R-Com to get access to the 800MHz band is via a share deal with Jio, which has that spectrum in that band in 10 circles that do not overlap with MTS. Aircel could also enter the mix with its 2300MHz spectrum in eight circles and 3G spectrum (2100MHz) in 13 circles, either by selling or sharing. Analysts do not expect the telco to be a net buyer. Videocon is also expected to be a net seller of its 1800MHz spectrum in six circles with efficiencies in combining with all the four major operators. Uninor is expected to be a net acquirer. There are, however, some challenges to sharing and trading, albeit minor. These include the fact that the spectrum in question needs to be liberalized (meaning, the market price is paid to the government and the telco is not restricted from deploying any technology it wishes on the airwaves). Then there are the spectrum caps, which could mean the telcos may prefer to share spectrum rather than trading it. In sharing, only 50% of the airwaves shared by each telco is considered. But that may not reduce the impact of a higher outgo (in terms of revenue share with the government) due to trading. Market leaders like Bharti Airtel, Vodafone and Idea have been clamoring for more spectrum and are expected to be the likely buyers.

UK competition body may ask to oversee 3UK/O2 merger

The U.K. competition watchdog is considering asking the European Commission for the right to examine CK Hutchison's proposed acquisition of O2 UK. The Competition and Markets Authority (CMA) on Wednesday invited comments on the proposed merger of 3UK and O2. It is seeking views on the impact of the deal on competition in the U.K. market and on whether it would be appropriate for the case to be referred to the CMA for investigation. The invitation to comment closes on 24 September. The CMA did not say when it will make a decision on the European Commission request. "If any such request were made by the U.K. and the Commission decided to grant such a request, the CMA would examine the proposed merger further with a view to deciding

whether or not it should be referred for an in-depth investigation under the provisions of the Enterprise Act 2002," the CMA said. CK Hutchison agreed to acquire Telefonica's O2 unit in the U.K. in March for £10.25 billion and submitted the proposed deal to the European Commission for examination late last week. The Commission's competition department has set a provisional deadline of 16 October to make a ruling on the case. The submission coincided with the collapse of the planned merger between Telenor and TeliaSonera in Denmark. The telcos pulled out of their deal having failed to reach agreement on competition remedies with the European Commission. New competition commissioner Margrethe Vestager insists that Denmark requires four mobile operators in order to protect competition, something that could be bad news for Hutchison, since the 3UK/O2 tie-up also reduces the number of players in the U.K. market to three. However, the competitive dynamics of the two markets are different – following the 3UK/O2 merger the U.K. would be left with three strong players of roughly equal size, for example – and Vestager herself has been keen to note that she will judge each consolidation case on its own merits.

UAE's Etisalat to open shares to foreign, institutional buyers September 15



United Arab Emirates telecommunications firm Etisalat will allow foreign and institutional investors to own its shares from September 15 after its board of

directors approved the new rules governing ownership, according to a statement on Sunday. Government-run Etisalat is worth nearly twice as much as the second biggest listed UAE company, but its publicly-traded shares can only be owned by UAE nationals and all institutions are excluded. In June, Etisalat said it would loosen these rules to permit foreign and institutional investors to own shares worth up to 20 percent of the company, but said last month that these shareholders would not be granted voting rights.

China achieves broadband development goals ahead of schedule

China has already achieved most of its broadband development goals for 2015, Chen Jiachun, the deputy director of information and communication development at the Ministry of Industry and Information Technology (MIIT), was quoted as saying. C114 writes that the targets included signing up 40 million new fiber-optic broadband subscribers and 200 million LTE users, and increasing the proportion of customers utilizing download speeds of at least 8Mbps to 55%. Coverage of fiber-optic networks, meanwhile, was scheduled to be rolled out to 80 million more homes and businesses, whilst 600,000 new base stations were also lined up. Commenting on the progress, the official explained that 94 million broadband subscribers used fiber-to-the-home (FTTH) connections at

end-July – an increase of 75% year-on-year – whilst the proportion of 8Mbps connections passed hit the 56% mark at that date. In terms of infrastructure, by the end of June 2015

9.7 million kilometers of fiber-optic cabling had been installed, including five terrestrial cables connecting to Association of Southeast Asian Nations (ASEAN) countries, and three international submarine cable routes. Mr. Jiachun also noted that the rapid pace of the broadband infrastructure development in China was helping to promote the country's booming e-commerce sector, with Lu Wei, the director of China's national information office, adding that the e-commerce transactions exceeded CNY16 trillion (USD2.51 trillion) in 2014, up nearly 60% year-on-year.

Japan PM's policy statement for lower mobile bills affects telco's shares

The Japanese Prime Minister Shinzo Abe's recent call to the Ministry of Internal Affairs and Communications (MIC) to consider ways of lowering mobile phone bills in the country, which he sees as becoming an increasing burden for householders, has sparked a sell-off in shares of Japanese mobile carriers and a dramatic slide in share prices. The PM's intervention came during a Cabinet Office panel on economic policy last Friday when he declared: 'Lightening the burden of cellphone bills and other expenses on household budgets is a critical task.' The policy aim was met coolly by investors though, and share prices began tumbling on Monday, with the three leading cellcos – NTT DOCOMO, KDDI and Softbank Group – plus fixed line operator NTT Corp losing a combined JPY4 trillion (USD32.8 billion) over just two days. The Nikkei reports that KDDI fell 6% on Tuesday to its lowest price since February, while Softbank sank to a year-to-date low and DOCOMO shed 4% on Tuesday after dropping 10% the previous day. The three cellular giants have pulled the Nikkei Stock Average down roughly 160 points this week so far, while concerns are mounting that investors are unlikely to return until the full details and impact of Prime Minister Abe's cost-cutting policies are made clear.

Free Wins Regulatory Battle with Orange

Orange, Numericable-SFR get green As part of a dispute between Free and Orange, the French telecoms regulator, Arcep is ordering Orange to lift unfounded restriction measures on its unbundling services. In response to an application by Free, Arcep has settled a dispute over the price charged for active equipment hosting solutions at Orange "NRA" subscriber connection points and "NRO" fiber concentration points (FCP), and for "LFO" fiber backhaul solutions when they are used to relay traffic from mobile base stations connected to telco networks over optical fiber. Arcep concluded that Orange cannot charge Free an addition fee for this new application. Indeed, current regulation[stipulates that the prices charged for hosting solutions at Orange subscriber connection points and fiber concentration points to relay traffic from mobile base stations connected to a fiber network must be cost-based. Arcep concluded that Orange could not charge Free an additional fee when the latter was employing its "LFO" fiber backhaul solution to backhaul traffic from cellular towers connected to telco networks over optical fiber, in addition to fixed network traffic. In particular, the Authority concluded, on the one hand, that charging different prices for passive fiber backhaul links depending on the use being made of them and the type of network connection being used by cellular sites, runs counter to the objectives of fair and effective competition that is beneficial to users, and of fostering innovation and technological neutrality and, on the other hand, that there was no evidence to justify Orange's appropriation of the value derived from its competitor's own investments.

Full 1800MHz bandwidth not available at auction in Thailand

The full amount of 4G 1800MHz spectrum promised for auction this November is unlikely to be available, Thailand's National Broadcasting & Telecommunications Commission (NBTC) has admitted. The Bangkok Post quotes NBTC secretary-general

Takorn Tantasith as saying that the regulator 'will have to auction only two licenses of 25MHz of bandwidth, with each license of 12.5MHz, instead of two licenses of 15MHz each.' Mr. Takorn explained that the approved auction plan to include an additional 5MHz of spectrum currently allocated to Digital Total Access Communication (DTAC) requires amendments to DTAC's build-transfer-operate (BTO) mobile concession issued by state-owned CAT Telecom, which will take several months to complete before being submitted to the Thai cabinet for approval. The concession amendment is necessary in order to comply with the Public-Private Joint Venture Act. The Post's report adds that Sanpachai Huvanandana, acting president of CAT Telecom, admitted he learned only last week that the return of the 5MHz would need concession amendments. DTAC nominally holds 50MHz of 1800MHz bandwidth under the 2G BTO concession with CAT, due to expire in 2018, although it only uses 25MHz; the 5MHz portion is part of the unused 25MHz.



▼ A SNAPSHOT OF REGULATORY ACTIVITIES IN SAMENA REGION

REGULATORY UPDATES

Afghanistan



Chairman: Dr. Mohammad Najib Azizi
[Afghanistan Telecom Regulatory Authority (ATRA)]

Afghanistan continues to be confronted on the widest possible front by the challenges of moving from a fragile present into a more stable and positive future. By 2015 despite the positive signs of a civil society taking shape, the country was still suffering from the ongoing conflict. After many years of war and civil strife, an encouraging aspect of the country's efforts to rebuild has been the considerable success evident in the creating a functional telecommunications sector virtually from nothing. According to the Ministry of Communications and Information Technology (MCIT), the telecommunications networks covered almost 90% of the population by 2015. Efforts were made to roll out fixed-line services, but the country's telecommunications services rely heavily on its mobile infrastructure. There were five mobile operators competing in Afghanistan's telecom sector by 2015. Between them they claimed a total of almost 24 million subscribers, with an overall mobile penetration of 75% by that stage. Four of the five were carrying market shares in excess of 20%, while

the fifth, Afghan Telecom, was almost irrelevant at that stage with less than 1% of the mobile subscriber base. Indeed Afghanistan has a highly competitive mobile market that continues to flourish despite the background of the ongoing conflict throughout the country. Not surprisingly the mobile sector has been boosted by the absence of effective fixed-line alternatives. In the meantime, internet penetration remained generally low throughout Afghanistan. With internet access initially relying heavily on dial-up services and an extremely low number of broadband subscribers in place, the online segment of the market was looking for a boost. That boost came in the form of 3G mobile licenses. The 3G services being offered by the various operators had been launched in 2013 and were providing a special opportunity for delivering mobile broadband to Afghanistan's population. By mid-2015 there were around two million 3G mobile broadband subscribers in the country; however, this was only 8% of the total mobile subscriber base. The political and civil stability of the country is a dark cloud hanging over the country; it is of course a particular threat to the effectiveness of the telecommunications network and the viability of the telecommunications sector. Nevertheless, there does appear to

be a will to secure the future of telecommunications in Afghanistan. (September 7, 2015) budde.com.au

Algeria



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

Telecom regulator ARPT has approved the draft interconnection offers submitted by domestic mobile operators Ooredoo Algeria (Wataniya), Mobilis and Optimum Telecom Algeria (OTA, Djezzy), and fixed line provider Algerie Telecom (AT) for the period 1 July 2015 to 30 June 2016. According to Decision 52/SP/PC/ARPT/2015, Mobilis Algeria will charge DZD2.2 (US\$0.02) per minute for termination of mobile traffic in 2015-16, while SMS and MMS will be priced at DZD1.8 and DZD15.0, respectively. OTA's interconnection offer for the aforementioned period, meanwhile, was adopted with Decision 54/SP/PC/ARPT/2015; the operator will now charge DZD1.10 per minute for termination of mobile traffic over its 2G/3G networks, while termination of SMS and MMS will be priced at DZD1.80 and DZD5.0. For its part, fixed line incumbent AT will charge DZD3.0 per minute for terminating local calls over its fixed network, while international long-distance (ILD) calls will cost DZD4.0 per minute. International VoIP calls will be priced at DZD6.0 per minute, with termination of national VoIP calls costing DZD3.0 per minute.

(September 23, 2015) telegeography.com

Telecom regulator ARPT has agreed in principle to accelerate the deployment of 3G networks, according to Minister of Posts, IT and Communications Imane Houda Feraoun. The Algeria Presse Service (APS) reports that the telecoms ministry recently asked the ARPT to examine the possibility of fast-tracking 3G rollouts across the country's 48 provinces, as several regions are still only covered by 2G networks. ARPT awarded 3G licenses to all three domestic cellcos – Mobilis, Nedjma/Ooredoo and Djezzy – in December 2013; according to the rollout obligations, the three operators must cover the entire national territory with 3G services by end-2018. Meanwhile, the Algerian government is planning to raise VAT on 3G mobile data services from 7% to 17% in its 2016 budget, while telecoms operators will be liable to pay 2% of their turnover in tax. ICT Minister Imane Houda Feraoun said that due to falling oil prices several ICT investment programs would be frozen, though she disclosed that the cuts are not expected to affect Algeria's national fiber rollout.

(September 15, 2015) Agence Ecofin

Bahrain



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

The Telecommunications Regulatory Authority of Bahrain (TRA) has received delegates from the Communication and Information Technology Regulatory Authority (CITRA) from the Kuwait to gain knowledge and information about TRA's experience in developing the telecommunications sector in Bahrain. Minister

of Transportation and Telecommunications Kamal bin Ahmed Mohammed stressed, during the visit, his support and appreciation for CITRA's initiative to be briefed on TRA's experience in developing the telecommunications sector in Bahrain. The Kuwaiti delegation was briefed on a range of subjects, such as mobile and high-speed broadband services, international supply, digital security and Internet ecosystem. The delegation included CITRA's chairman and CEO Salim Muthaib Alozainah, vice chairman Khalid Alkandari and two CITRA's executive board members Waleed Alqallaf and Saud Alzaid.

(September 20, 2015) arabianindustry.com

Telecommunications Regulatory Authority (TRA) in cooperation with Bond University Australia held a four day workshop on "Culture Transformation" at the Four Seasons Hotel in Manama, which began on September 6, 2015 and attended by a number of TRA's staff from different specializations and experiences. The workshop is the latest in a long standing effort by the TRA in changing the organizational culture of TRA staff members, and considered the second phase of Bond University's collaboration towards the same goal. The findings concluded by Professor James Carlopio from Bond University who presented the workshop, on the TRA from a series of staff interviews which were conducted in April were shared with the TRA last week which resulted in forming a committee with representatives across the TRA. The committee will be dedicated in the continuous formulation and execution of projects which will help transform the TRA to an improved culture, with the professor's findings and discussions in mind. TRA Director of Finance and Human Resources, Mr. Faisal Al-Jalahma stated that "This journey towards a culture of excellence began in 2012 and we have now reached our peak. We have handed the task of transforming our culture to a committee of young directors and champions who will drive these changes." Mr. Al Jalahma continued, "Transforming our culture is important to the Authority, as it will create a high performance mentality within TRA. As TRA always operates in a lean and efficient structure where we execute projects and initiatives, and giving our young cadres the opportunity to demonstrate and continuously practice the values of good leadership." Professor James Carlopio was also quoted in saying that "It's nice to have goals, but how to get there is an important aspect many organizations miss or disagree upon. You need to know where to start in order to reach your goals and I hope to do that here. One of the objectives for the attendants or "Champions" here under Cultural Transformation is to understand TRA's values, believe in them and live them."

(September 16, 2015) tra.org.bh

Telecommunications Regulatory Authority (TRA) Director of Cyber Security Dr. Khalid Bin Duajj Al Khalifa headed Bahrain's delegation to the US-GCC Cyber Security Strategic Cooperation Forum at the Secretariat-General Headquarters in Riyadh, which took place on August 31 to the September 1, 2015. The Cyber Working Group, which is made up of US and GCC Delegations from multiple agencies that have a role in Cyber Security, was established after the May 14 Camp David Summit with GCC leaders, where the United States and Gulf Cooperation Council Countries agreed to several lines of effort related to improving cyber security in the GCC. The forum provided a platform to discuss and assess

GCC countries' cyber security readiness and to explore possible areas of cooperation in developing policies and plans to protect critical infrastructure against cyber threats, to promote information sharing on cyber issues and to provide cyber security assistance. The forum also facilitated government wide discussions on cyber issues, and the multilateral consultations for regional cooperation against cyber threats. After the working group's meetings were concluded, Dr. Khalid Bin Duaij Al Khalifa said in a statement that "Cyber Security is a matter that requires international cooperation and knowledge sharing. It is a high priority for the Kingdom of Bahrain from a security and economic standpoint, thus adopting the standards observed by the US and GCC is key to bolstering the nation's critical infrastructure industries. The working group is an important step towards maximizing efforts multilaterally across the GCC in defending against cyber threats effectively and cooperatively" Dr. Khalid went on to say that "We have all witnessed the damage that cyber vulnerabilities can cause, such as national scale economic convulsions, the disruption of tactical military operations, and system wide computer malfunction as we witnessed in Aramco. These are all complex threats that can't be dealt with in isolation, which is why at this intersection of policy & technology; we seek to strengthen our cooperative mechanisms, as we simply cannot afford to have our key national infrastructures & systems to be exposed or to become fragile." The agenda for the Cyber Working Group included topics such as the basics and importance of national cyber strategy, approaches to critical infrastructure security and resilience related to cyber security, cyber incident management, cyber threat information sharing and law enforcement cooperation, and exchange of cyber security best practices.

(September 14, 2015) tra.org.bh

Bangladesh



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

Indian telecoms giant Bharti Airtel is negotiating with Malaysia's Axiata on proposals to merge the two group's respective Bangladeshi mobile subsidiaries, Airtel Bangladesh and Robi Axiata, noting that the potential merger would boost the enlarged cellco to take second market place from Banglalink. However, a joint statement from the two groups said: 'There is no certainty that this discussion will lead into the execution of binding definitive agreements between the parties ... This announcement is to facilitate the ongoing discussions and exchanges of information between the parties, including but not limited to discussions with the relevant regulatory authorities.' The newspaper also quoted an Airtel spokesperson as saying: 'We remain committed to Bangladesh,' referencing recent reports that the Indian group was considering pulling out of the market altogether. The negotiations with Axiata come as part of Bharti's initiative to restructure operations in all countries where it has a relatively low market share. (September 10, 2015) Economic Times

Indian telecoms giant Bharti Airtel is mulling the sale of its Bangladeshi and Sri Lankan mobile operations, having appointed two bankers to lead the sale, according to Mobile World Live citing a report by the Business

Standard. Bharti reportedly aims to firstly sell its cellular tower businesses in the two countries followed by the mobile operating divisions. Airtel currently operates around 4,000 towers in Bangladesh and 2,500 towers in Sri Lanka. Airtel's quarterly revenue in Sri Lanka and Bangladesh fell 11% in April-June 2015 to INR3.8 billion (US\$57.3 million), while its mobile subscriber market share stands at roughly 7% in both South Asian countries. (September 1, 2015) telegeography.com

Egypt



Acting Executive President: Eng. Mustafa Abdul Wahid
[National Telecommunication Regulatory Authority (NTRA)]

The National Telecommunications Regulatory Authority (NTRA) report on the quality of mobile services during August 2015 has shown a relative improvement in the performance of Egypt's three mobile telecommunications companies. The report showed that Mobinil excelled in data transfer services in Cairo, where more than 2,100 connections were attempted, of which only 28 failed. Etisalat followed in second, with over 1,900 connections attempted, of which only 15 failed. Vodafone came in third, with 671 failed operations of a total of 2,300 connection attempts. Vodafone topped the rankings for quality of mobile internet services, with only 12 failed connections of the more than 3,600 attempted connections. Etisalat came in second place, with 14 failed times to establish connections out of a total 4,100 connections. In third place came Mobinil, with 17 failed attempts of 3,600 connections. The report outlined Mobinil's superiority in terms of video calls, with only five failed connections for video calls out of a total of 2,100 attempts. (September 26, 2015) dailynewsegypt.com

Iran



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

Iranian mobile operator MTN Irancell has revealed the latest details of its 3G and 4G network rollouts. The firm says its 3G network now covers 35.8% of the population in 427 cities and towns and 56 main roads across all 31 provinces, while its 4G Long Term Evolution (LTE) network reaches 11.6% of the population with coverage in 82 cities. Irancell has constructed 4,250 3G base stations and 1,750 4G sites, and is claiming 12.5 million 3G subscribers and around one million 4G users. MTN Irancell launched 3G services at the start of September 2014 while 4G services were added two months later.

(September 2, 2015) telegeography.com

Jordan



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

Jordan's Uminah Telecom says that it has paid USD100 million for a 4G license, covering the 1800MHz spectrum band. The company added that its investment in the expansion and modernization of its wireless network will reach \$500 million, including the launch of its 4G fixed broadband services. Commenting on the company's latest achievement, Uminah CEO Ihab Hinnawi explained

“Umniah will make investments of up to \$300 million this year, including the 4G fixed and mobile license fees, as well as build a new network and expand its existing 3G network.” He stressed that the company’s strategy aims to provide access to broadband Internet services to all segments of society, and that the total volume of this investment is expected to reach up to \$500 million by the end of 2017. Umniah has begun construction of its 4G networks and will launch them in early 2016, with comprehensive coverage of all populated areas in the Kingdom. Furthermore, the upgrade and expansion of its 3G network will be completed by the end of November 2015. During the press conference, the company also announced that it will continue to invest in strengthening its basic infrastructure, its fiber optic network, as well as its supporting systems in order to provide its customers with the high quality of service they have come to expect. (September 17, 2015) cellular-news.com

Kuwait



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

Kuwait telecom major Zain has decided to invest in technology firms that boost the weakening margins following the sluggish subscriber numbers and drop in revenues. As part of its investment strategy to boost margins, Zain will invest in two digital advertising companies. Zain is also focusing on smart city projects, online advertising, and television services. The advanced technology applications in the telecom sector are changing business dynamics in the industry. For instance, instant messaging and internet-based calls are replacing higher margin text messages and conventional phone calls. As a result, margins of telecom operators such as Zain are dwindling by the day. This has pushed Zain to forge an alliance with technology companies that support in strengthening business operations. Towards this, recently, it has tied up with Uber Technologies Inc in addition to investing in three venture capital (VC) funds. Zain believes that these initiatives will enable it digital services segment. Considering the changing industry dynamics, Zain turned to digital advertising. Since it consumes a lot of time in developing technology expertise in-house, the company has decided to team up with those who offer what it needs, according to Scott Gegenheimer, Zain Group Chief Executive. He said: “Zain’s interested in smart city projects, online advertising, and television services. It’s not about financial gain. These initiatives give us easier access to see what the new business models look like.” “They’re more agile than a lot of the telecom operators. We don’t have the time and skill sets to do this in house.” Despite odds in the telecom market, Zain made a profit during the first half the year. Zain posted net profit of 80,354,008 Kuwait dinars (KD) for the first half of 2015. The earnings per share (EPS) stand at 21 fils. The data package pricing needs to be changed, feels Gegenheimer. The price for one or two gigabytes in the US and Europe, one can get 500 gigabytes in Saudi Arabia. Zain has telecom operations in eight countries. It has a strong presence in Sudan, Iraq and Saudi Arabia. Sudan contributes 25 percent of Zain’s customer base and 20 percent of revenues. Zain’s Sudan division made \$78million net profit for the first half of this year. Zain Bahrain suffered a drop in net profit for the first half.

The net profit eased to 2.074 million Bahrain dinar (BD) from BD 2.224mn indicating 6.7 percent drop for the first six months. Zain is revamping its data packages including price structure to monetize in a better way. Considering the high volatility in the forex market, Zain has hedged its loans to avoid any unforeseen impact of forex fluctuation. (September 15, 2015) moneytimes.com

Morocco



Director General: M. Azzine El Moutassir Billah
[Agence Nationale de Reglementation des
Telecommunications (ANRT)]

Maroc Telecom (IAM) is yet to publish a new wholesale offer for access to its copper local loop and passive fiber infrastructure, despite being given a deadline of January 20, 2015 to incorporate all of the telecom regulator ANRT’s recommendations. In an interview with Media24, Michel Paulin, the CEO of Meditel, has confirmed that the publication of the approved wholesale offer – which must cover shared cabinet access, full and partial unbundling and bitstream access – is still pending, thus preventing alternative operators from access to IAM’s infrastructure. 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 the required documents on several occasions.

(September 28, 2015) Agence Ecofin

Nepal



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

The Nepalese government says it is hoping to have awarded a unified communications license to United Telecom Ltd (UTL) within the next few weeks. According to a report from The Himalayan, the Nepal Telecommunications Authority (NTA) has confirmed that UTL has paid the third installment of the required license fees, though it still owes more than NPR1 billion (US\$9.3 million) which must be paid in installments over the next five years. There are still some issues to clear up, the report suggests, including questions over fee payments and the operator’s rollout plan, but the paper quotes an NTA source as saying: ‘Hopefully we will be able to issue the unified license to UTL within two weeks by resolving the complexities.’ UTL is a fixed-wireless and limited mobility CDMA network operator in Nepal. In April 2013 it was given approval to upgrade its operating concession to a unified license which would enable it to introduce full-blown cellular services. Since then, however, the company has undergone a number of disruptions, with its Indian shareholders seeking to exit the company, leaving domestic firm Nepal Ventures Private Ltd (NVL) to take over all investment, while the announcement of a job-cutting program has seen a backlash from employees which has led to strikes and

service disruptions. (September 23, 2015) telegeography.com

Oman



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

The telecom sector witnessed a growth of seven per cent last year, generating total revenue of RO803.544mn as compared to RO749.252mn in 2013. Revenue generated from mobile services made up for the major portion of the earnings - 76 per cent, while the remaining was contributed by fixed and Internet services. Investments in the sector also grew by 40 per cent over 2013, according to the Telecom Regulatory Authority's (TRA) Annual Report 2014. Total telecom investment grew from RO156.5mn in 2013 to RO219.71mn last year. The composition of investment in mobile, fixed and fixed broadband networks was 62 per cent, 29 per cent and eight per cent respectively, stated the report. According to the report, the average revenue per mobile subscribers rose from RO7.6 in 2013 to RO10.8 in 2014. However, the average revenue per unit (ARPU) from fixed services experienced constant reduction reaching RO6.1 in 2014 from RO7.1 in 2013, RO8.8 in 2012 and RO13.9 in 2011. ARPU for fixed Internet services reached RO35.5 with 24 per cent increase during 2014 from RO28.6 in 2013. The number of mobile subscribers reached 6.194mn by the end of 2014 from 5.617mn in 2013, an increase of 577,000 subscribers. The mobile penetration rate remained constant at 155 per cent during 2013 and 2014. "Even though mobile subscriptions were steadily growing during the last five years, the drop in the mobile penetration rate in years 2012 and 2013 was due to re-evaluation of population estimates. "From 173 per cent in 2011 it dropped to 160 per cent in 2012 and to 155 per cent in 2013," the report said. It remained the same during 2014. Prepaid mobile represented 91.5 per cent of the total mobile subscriptions with 5.665mn subscribers, while post-paid mobile subscribers reached 529,000 by end of 2014. Oman mobile had 47 per cent of the market share, while Ooredoo and mobile resellers possessed 41 per cent and 12 per cent respectively. TRA has said in the report that the telecom sector contributes to the general economy through the payment of royalty it receives at seven per cent on gross revenues, which is transferred in full to the Ministry of Finance after collection by TRA. Total royalty collected from active licensees for the year 2014 was RO 47, 674,369.435, accruing to six per cent increase in the royalty collected in 2013, where more than 98 per cent came from Class I licensees. Additionally, TRA collected RO3.1mn in arrear royalties from Ooredoo for the years 2005-2011 in 2014. (September 14, 2015) zawya.com

Pakistan



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

The Government of Pakistan is preparing for the next spectrum auction and has budgeted the revenues from spectrum auction for the current financial year. Therefore, the auction must be completed before the end of fiscal year. Pakistan Telecommunication Authority has already advertised the RFPs (request for proposals)

for hiring a consultant company that could advise the regulator on auctioning of 3G/4G spectrum in the country, however, no one is finalized for the job as of yet. It is yet unclear as to what amount and magnitude of spectrum, and from which band Pakistan may auction now, as already operating mobile phone companies with 3G and 4G spectrum, particularly Ufone and Telenor, are nearing their capacities and may need more spectrum during months to come. Such decisions will be taken by MoIT and a policy will be drafted to specify the spectrum that government may intend to sell. Based on this policy from MoIT, Pakistan Telecommunication Authority will prepare Information Memorandum (IM) that will constitute detailed specification of the auction including the base price, auction mode and other modalities of the auction. This whole process should require least six months if not more. (September 15, 2015) propakistani.pk

Pakistan's Minister of State for IT and Telecom, Anusha Rehman, has revealed that the government is looking to hold another round of spectrum auctions in the near future. The minister made the announcement during a meeting with the Turkish ambassador, in which she also noted that a tranche of 850MHz spectrum would be reserved for a new operator. The official explained that 'market forces have already expressed their appetite for more spectrum,' following greater than expected demand for 3G/4G services. The number of 3G subscribers reached 13.287 million in June 2015, a little over a year since the introduction of the service in late May 2014. Whilst no schedule for the auction has been set out, the Pakistan Telecommunication Authority (PTA) has begun looking for a consultant to advise on the sale.

(September 4, 2015) ProPakistani

Qatar



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

A consumer survey commissioned by the Communications Regulatory Authority (CRA) shows that a majority of telecom users in the country are generally satisfied with the quality of services provided by their service provider, the survey indicates key areas of focus for improvement, including pricing, rate plans, and complaint resolution. The survey also found that about one-fifth (22 percent) of consumers surveyed believe prices of various services in Qatar are priced low or very low. Among all aspects of pricing, consumers particularly believe international calling and roaming charges to be expensive. These are some of the many findings in a survey conducted by AMRB LLC, a market research firm, for the CRA. This comprehensive research survey evaluates consumers' level of satisfaction regarding the delivery of telecommunication services, prices charged, services provided, and satisfaction with the complaint resolution mechanism, among others. For the survey, 2,526 face-to-face interviews and nine focus groups were conducted among Ooredoo and Vodafone customers in Qatar, including all demographic groups and geographic locations throughout the country. "This survey was commissioned as part of our mandate as the communications sector regulator to ensure a competitive marketplace and protect consumer rights," said Amel Salem Al-Hanawi, Consumer Affairs Manager. "The

survey findings have been shared with both Ooredoo and Vodafone and we are pleased that they are willing to work with CRA to address challenges and concerns highlighted by consumers in the survey," she added. The survey shows that 15-24 year olds, and Al Daayen residents are less satisfied than overall consumers with the quality of their telecom service. Overall quality of service (QoS) satisfaction levels is slightly higher than the global average (84 percent) and slightly lower than those in North America (91 percent). When consumers were asked about their rate plan, they were least satisfied with the 'variety of rate plans', with the highest dissatisfaction among males, non-Qataris, 15-44 year olds, and prepaid users. Generally, customers were more satisfied with the clarity of rate plans (93 percent), clear terms and conditions (90 percent) and competitiveness of tariffs (89 percent). This reflects positively on the impact and effectiveness of the Consumer Protection Policy issued by CRA in 2013. In terms of consumers' perceptions of whether Qatar's telecom market is competitive, for services, 32 percent said the market was extremely/very competitive, 46 percent said somewhat competitive, and 22 percent said not very/not at all competitive. In terms of prices, 29 percent rated the market as extremely/very competitive, 45 percent said somewhat competitive, and 26 percent said not very/not at all competitive. Dissatisfaction was highest among males, non-Qataris, 25-44 year olds and prepaid users. Customers' wish list for the sector included more competition in the market, better services at affordable rates, better Internet facilities, and protection of consumer rights. Other major findings include:

- Network coverage is rated high across all services offered – mobile voice, mobile voice and data, mobile broadband, and data specific SIM—and across all regions.
- Satisfaction on network availability is relatively weak among Internet (copper users) at 60 percent and those residing in Al Daayen at 67 percent.
- While overall satisfaction with 'voice and SMS services' is high – including voice quality and clarity, lack of call drops, and SMS delivery – improvement can be made in the Al Shamal and Al Wakra regions.
- Users of most of the data services (other than copper Internet) are satisfied with the services provided, with quality of data services at 93 percent, data network coverage at 94 percent, speed at 93 percent, and video access/streaming quality at 92 percent.
- Dissatisfaction on 'ease of activation' is higher among mobile broadband, mobile voice, and fiber broadband users.
- More than 90 percent of consumers are satisfied with the switch from copper to fiber (94 percent) and also with the quality of broadband after the switch, with 90 percent rating quality of broadband after the switch very much or much better.
- Only 32 percent of those surveyed are aware of mobile number portability (MNP) and of those who are aware, 9 percent took advantage of this service. Of those with experience with MNP, 72 percent were satisfied and 48 percent claimed that porting took between 1-5 days.
- While there is low incidence of consumers raising complaints with service providers (7 percent during the time of the survey), 25 percent of customers are dissatisfied with the speed of resolution.

- While consumers do not find the SMS promotions to be misleading, they are less satisfied with 'options to opt out of promotional messages'.

The survey findings will be used by CRA to improve services and protect consumers. In addition, CRA has initiated another study to better understand the levels of satisfaction of telecom services among the business consumers. The full Consumer Satisfaction Survey report is available on the CRA website. (September 22, 2015) cra.gov.qa

Sweden's Ericsson has been selected by Qatar's Communications Regulatory Authority (CRA) to provide solutions and services to support the implementation and management of new telecommunication duct infrastructure in the Middle Eastern state. Patrik Melander, vice president and head of Ericsson's GCC & Pakistan division, said: 'through this partnership, we are spurring an increasingly Networked Society in Qatar as we expand our services to support the needs of Industry and Society customers. This deal marks a key milestone in our partnership with CRA Qatar.' The company added: 'By using Ericsson Network Engineer, the regulator has a GIS-based mapping tool that supports keeping records of the new telecommunication duct infrastructure which will be established as a result between the cooperation between the Ministry of Information and Communication Technology (MICT), the CRA and the Public Works Authority.' (September 8, 2015) CommsMEA

Saudi Arabia



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

International Data Corporation (IDC) has said it expects ICT spending in Saudi Arabia to top the \$36 billion mark this year, as organizations gear up for a whole new era of enterprise computing by ramping up their investments in emerging technologies such as cloud, mobility, big data analytics, and the Internet of Things. These pronouncements were made as the research and consulting firm hosted the latest edition of its Saudi Arabia CIO Summit under the theme "Where IT Meets Business" at the Four Seasons Hotel in Riyadh. Held over two days, the event was hosted under the patronage of the Ministry of Communication and Information Technology and attracted over 150 of Saudi Arabia's most influential CIOs, technology decision makers, and government advisors from across the Kingdom's entire vertical spectrum. Summit discussed the importance of closely aligning IT and business functions at a time when organizations across the region are facing up to the challenge of implementing emerging products and services while simultaneously trying to improve operational efficiency. "While warnings of impending change have been heard for as long as the IT industry itself has existed, the realities facing today's businesses represent a whole new ballgame," said Jyoti Lalchandani, IDC's group vice president and regional managing director for the Middle East, Africa, and Turkey. "Users are having to wrestle with a rate of change that has never been seen before. With this, the focus of CIOs across the region is beginning to shift to the new wave of disruptive technologies that are heading their way, with unprecedented opportunities to drive innovation

and value creation across all facets of the organization. This will not only require a new breed of CIO leadership, but also a whole new era of collaboration right across the CIO value chain." With the event representing the largest gathering of CIOs in Saudi Arabia, a host of global ICT giants joined forces with influential local players to present their unique insights into the latest trends shaping technology adoption across the wider region, while a variety of senior line-of-business executives were also on hand to offer that all-important non-IT perspective. For the first time, the event also included a series of vertical-focused tracks, with the spotlight focusing on the Kingdom's government, banking and finance, and energy sectors, as well as on the need for organizations of all kinds to embrace the digital revolution before they get left behind. "As the world changes beyond all previous recognition, we are increasingly becoming a community of digital citizens living in a global network that is always connected," said Abdulaziz Al-Helayil, IDC's regional director for Saudi Arabia. "We engage online more than ever before, and with the world's information at our fingertips we have become significant contributors to a vast and growing information ecosystem. Businesses need to keep pace with this change by redefining themselves and adopting a digital mindset. That starts with digitizing their business models and re-engineering the customer experiences they deliver, so that they can leverage both the information they own and the information that is created by their customers." EMC Tuesday announced its participation at the latest edition of the IDC CIO Summit that brings together over 200 of the most prominent CIOs and IT leaders from across the Kingdom, to exchange insights and best practices on the application of third platform technologies to transform business. EMC's participation at the event aims to help IT leaders deliver the agility and performance to support the ever changing and growing needs of their customers in an era of hyper connectivity and digitization. The announcement comes as a recent study reported that 62% of respondents in the UAE and Saudi Arabia believe that the surging adoption of mobile, social, cloud and big data technologies is changing customer behavior and driving the need for organizations to adapt in order to stay competitive. Conducted by the Institute for the Future and Vanson Bourne on behalf of EMC, the study titled The Information Generation: Transforming The Future, also reported that while 63% of respondents in the UAE and Saudi Arabia believed that having access to relevant information and insights would improve decision making, 33% of respondents reported to be drowning in information overload. (September 9, 2015) zawya.com

Sri Lanka



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

Indian telecoms giant Bharti Airtel is mulling the sale of its Bangladeshi and Sri Lankan mobile operations, having appointed two bankers to lead the sale, according to Mobile World Live citing a report by the Business Standard. Bharti reportedly aims to firstly sell its cellular tower businesses in the two countries followed by the mobile operating divisions. Airtel currently operates around 4,000 towers in Bangladesh and 2,500 towers

in Sri Lanka. Airtel's quarterly revenue in Sri Lanka and Bangladesh fell 11% in April-June 2015 to INR3.8 billion (US\$57.3 million), while its mobile subscriber market share stands at roughly 7% in both South Asian countries. (September 1, 2015) telegeography.com

Sudan



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

Sudan now makes up the northern part of a country which in 2011 was separated to form the new state of South Sudan. Three quarters of the former population live in the north, where mobile market penetration is far higher. The country has a relatively well-equipped telecommunications infrastructure by regional standards, including a national fiber optic backbone and international fiber connections. The chronically poor performing economy has hindered the ability of operators to improve revenue from services and sufficiently invest in infrastructure upgrades, while social unrest in South Sudan continues to impose practical difficulties for telecom operators. The national telco, Sudatel was privatized more than a decade ago, with major shares and management control now held by Etisalat of the UAE and by Qatar Telecom. It is also listed on several regional stock exchanges. The company presided over the world's fastest growing fixed-line market until it started substituting traditional copper lines with CDMA2000 fixed-wireless access in 2005. Competition in the fixed-line market comes from Canartel, which is also majority-owned by Etisalat. The operator also opted for CDMA2000 technology to cost effectively roll out fixed services and, like Sudatel, offers wireless broadband services through this network, having upgraded to the EV-DO standard. The company is lobbying for a license to offer mobile services as well but is meeting resistance from the other operators. The market for mobile internet services is flourishing, and traffic for services such as SMS more than tripled in the year to June 2013. (September 2015) budde.com.au

Turkey



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

Turkey's largest mobile operator by subscribers, Turkcell, has declared that it is looking to appoint a strategic and financial advisor to explore the possibility of full acquisition of subsidiary Fintur (inclusive of mobile operations in Kazakhstan, Azerbaijan, Georgia and Moldova), in which it currently holds a 41.45% stake. The news is pursuant to TeliaSonera's announcement that it has initiated a process to reduce, and over time fully exit, its presence in CIS and Asian markets; TeliaSonera is one of Turkcell's major shareholders and also Turkcell's partner in Fintur through a 58.55% stake. The jointly-owned cellular operators under consideration are K'cell, Azercell, Geocell and Moldcell in Kazakhstan, Azerbaijan, Georgia and Moldova respectively. TeliaSonera declared that it will exit all seven countries in its 'Eurasia' mobile network operating division – Kazakhstan, Uzbekistan, Azerbaijan, Tajikistan, Nepal, Georgia and Moldova – to sharpen its focus on its Sweden and Europe divisions.

The strategic decision follows a troubled period in which the group was affected by investigations into corruption allegations in Eurasian markets, exacerbated by tough macroeconomic conditions and price competition across the Eurasia footprint. (September 18, 2015) [telegeography.com](#)

Turkey's Telecommunications Directorate (TİB) has been granted the authority to monitor Internet users and block websites and their content without court permission, according to a new proposal made by the ruling party late September 8. The proposal, which came during talks on a huge omnibus bill, allows the head of the TİB to block websites and content in order to "protect national security and public order, as well as to prevent crime." The service provider will be required to shut down the website or remove the content within four hours, if the omnibus bill is approved. The government changed the Internet Law in early 2014 after a social media campaign targeted government members over corruption claims. The voice recordings of a number of Turkish officials allegedly showing them accepting bribes, including former Prime Minister Recep Tayyip Erdoğan, shook Turkish politics, with the government banning the social media websites Twitter and YouTube in a bid to stem the leaks. While the blocks on those websites have been lifted, the current changes to the Internet Law through the omnibus bill are regarded as further measures to monitor web users and the sites they visit. According to current regulations related to blocking websites, after issuing service providers with an initial order to block access to a site, the TİB must apply to court within 24 hours to get a legal decision. The latter has 48 hours to respond to the TİB's request. Last night's proposals included a last minute addition on how Internet traffic would be stored. The current law authorizes service providers to store the data accumulated by web users for two years and the TİB is only able to request this information upon a court decision, or as part of a criminal investigation. However, the recent changes allow for the TİB to store the data in-house and to hand over the data to relevant institutions upon a court decision. "The process to present information on specific web traffic data to the court used to take at least a month, which caused a serious delay. By storing this information at the TİB, this process will be much quicker," officials told daily *Hürriyet*. The European Union and the United States have both severely criticized the Turkish government for increasing government control over the Internet, particularly after the blocks on Twitter and YouTube were imposed. (September 9, 2015) [hurriyetdailynews.com](#)

Russian-backed Alfa Group has applied to Turkey's Competition Authority (RK) to take indirect control of Turkish mobile operator Turkcell from Cukurova Holding, reports *Hürriyet Daily News*, citing a statement from RK, in a move which continues a long-run feud between Alfa and Cukurova for ownership of the company. An unnamed source is said to have informed Reuters that the battling companies have been in discussions regarding the matter: 'This latest move must be a tactical or formal application. Alfa made an offer to Cukurova last March ... Cukurova said the [offer could not be evaluated] as it has applied to an international arbitrator in London.' However, the same source disclosed that in order to take control of the Turkish cellco, Alfa also needs to acquire permissions from public authorities, including the RK, the market watchdog (SPK) and the communication

board (BTK). Arbitration sessions are now expected to take place next spring. As at August 2015 Turkcell's shareholder structure was reported as follows: Turkcell Holding owns a 51.00% stake, TeliaSonera owns 14.02%, Cukurova Holding owns 0.05%, and the remaining 34.93% of shares are publicly traded on the New York Stock Exchange (NYSE) and the Istanbul Menkul Kıymetler Borsası (İMKB). Turkcell Holding is itself owned by TeliaSonera (47.09%, giving it a 37.09% overall stake in Turkcell) and Cukurova Holding (52.91%, for a 26.98% overall interest). Cukurova Holding is majority controlled by the Turkish Cukurova Group (51%, or a 13.76% overall stake in Turkcell), with 18.5% held by Alfa Group (4.99% overall stake in Turkcell). In March 2015 Alfa reportedly bid USD2.8 billion for the disputed 13.76% Turkcell stake. Alfa offered USD54.9 million per share for 51 of Turkcell's Class B shares, which were being held by state-run Ziraat Bank as collateral for a loan to Cukurova. The US\$2.8 billion bid represents a significant premium on the US\$1.56 billion price previously attached to the stake. (September 9, 2015) [telegeography.com](#)

Fitch Ratings expects that increased focus on bundled services within the Turkish telecoms market could lead to an increase in content costs, especially for live football broadcast rights. Expanding pay TV services can help telecoms operators to maintain and grow mobile and broadband market share, but high content costs could erode profitability. The Turkish telecommunications market is becoming increasingly convergent as the major operators begin to offer pay TV services as part of their triple or quad play service bundles. Turk Telekomunikasyon launched satellite TV services in July to supplement its IPTV product, and Turkcell has a growing IPTV offering, with 16% of its fibre customers taking up triple play services at end June 2015. Football rights are likely to make up an important part of pay TV operators' content offerings. In November 2014, Turk Telekom acquired the rights to UEFA European football (champions and Europe leagues) for three seasons, beginning in 2015 2016, and although the cost was not disclosed, we expect it to be sufficiently offset by reduced direct sport sponsorship. D Smart, the second largest pay TV satellite broadcaster with 1.74 million subscribers, previously held the UEFA rights. The leading Turkish pay TV operator is Digiturk with its satellite TV offering serving 2.7 million customers at end 1Q15. It owns the rights to broadcast the Super Lig, the country's top football league until the end of the 2016 17 season. The company's initial four year deal, which ended with the 2014 15 season, cost USD321m per season, but this was extended for two more years at a reported cost of USD450m per season an increase of 40%. In their 2Q15 investor call Turkcell stated that they are interested in continuing to grow their IPTV offering, and to potentially acquire sports content to increase its attractiveness. With Turk Telekom having already secured the UEFA European football rights for three years, the Turkish Super Lig rights could see a lot of interest when they come up for auction in 2H16. We expect Digiturk to want to retain these key content rights, as their ownership is a key differentiator of their satellite TV offering. Having recently been acquired by Qatar based Al Jazeera's sports arm, we expect that they will have significant resources to try to hold on to these rights. Turkcell, however, with a net cash position at end 1H15, has signalled that it is planning to run a higher leverage profile. This could release significant

resources to bid for these rights. D Smart and TT may also be interested. Competition for football rights could result in a significant increase in content costs, as seen in the UK. The cost of live broadcasting rights for English Premiership football has increased over 70% as BT Group Plc (BBB Positive) competed against Sky Plc (BBB Stable) for the content. (September 4, 2015) cellular-news.com

Tunisia



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

Tunisia will launch a tender for 4G spectrum later this month with licenses to be awarded in summer 2016, the Minister of Communications and Digital Economy, Nommen Fehri, announced, AllAfrica reports. Operators will be called upon to roll out coverage to remote, 'non-profitable' regions as part of efforts to improve connectivity in rural areas and promote their development. The minister added that the implementation of 4G technology would help improve internet services across the country, which are currently 'poor and expensive'.

(September 7, 2015) telegeography.com

United Arab Emirates



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

The telecom regulator TRA signed a Memorandum of Understanding (MOU) with the Telecom Regulatory Authority of India (TRAI) on September 3, 2015 during the joint commission meetings that both countries held in India, in the presence of Sheikh Abdullah Bin Zayed Al Nahyan, UAE Foreign Minister and Minister of State. The agreement aims at strengthening the collaboration between the two countries within the Telecommunications and ICT space. The MOU pledges both countries' commitment to promoting closer co-operation and knowledge exchange pertaining to various aspects of international and regional ICT. TRA's Director General said: "This agreement falls within the framework of bilateral cooperation between UAE and India, and aims to secure optimum utilization of the Telecommunication Sector to best serve the development efforts, economy, and knowledge society, which will reflect positively on the competitiveness of both countries. The importance of the Telecommunications Sector is reflected through the strategic role it plays in our contemporary society, as it contributes significantly in the economic and social development. We regard taking advantage of the global expertise and strengthening the ties with international stakeholders as necessities for the growth and prosperity of this sector" TRA believes that the Telecommunications sector is a strategic catalyst that will accelerate the UAE's competitiveness. Moreover, TRA is always keen to exchange knowledge and experience within the ICT field and implement best practices that contribute positively to developing a knowledge-based economy. Key areas of cooperation include technological developments and new technologies; universal services of telecommunications and Mobile Number Portability (MNP), Spectrum issues, green

telecom, e-government and e-services, in addition to participating in international events and forums and any other issues as may be mutually agreed. TRA Director General and TRAI Secretary, signed the MOU. Moreover, meeting attendees exchanged thoughts about the challenges facing the Telecommunications sector including broadband services, Cyber Security, and the promotion of investing in Telecommunications and ICT companies. Both parties agreed that discussing such topics further is crucial during bilateral meetings on the sidelines of international forums. (September 20, 2015) tra.gov.ae

The telecom regulator TRA announced that the number of registrations on the national .ae domain has increased, reaching more than 164,000. This figure positions the UAE at the forefront among the countries in the region for the number of registrations within the nation's respective range. This achievement reflects UAE's government commitment to elevating the country's competitiveness. It is also proof of the immense effort exerted by the government to serve and develop the internet community in UAE. Driven by its commitment to the directives of the UAE wise leadership, the TRA strives to achieve its vision of providing the optimum environment for the Telecommunications sector to thrive and lead. This increment indicates that the TRA has made great strides towards this vision.

(September 10, 2015) tra.gov.ae

In collaboration with the United Arab Emirates Prime Minister's Office at the Ministry of Cabinet Affairs, the mGovernment team of the General Authority for Regulating the Telecommunications sector (TRA), hosted a series of introductory workshops over three days on the strategic indicators towards smart government 2014-2016. A large number of representatives attended the workshops from the federal government across the UAE. The workshops demonstrated a list of updates and events, approved by mGovernment, which will be implemented in Q4 2015. The mGovernment team also introduced a list of measurement requirements as part of the strategic planning towards smart government that highlight the role and mission of the federal authorities in this respect and present the proper communication tools to TRA who is responsible for measuring mGovernment readiness. Director General, TRA said: "The excellent teamwork spirit among all concerned government authorities working on the mTransformation project has been a key element behind this remarkable achievement. This is been highlighted through the major accomplishments during the first phase of this national project launched by our wise leadership. On this occasion I would like to extend my gratitude and appreciation to all ministries and government authorities for their highly appreciated and continuous efforts to successfully accomplish the mGov project, which will contribute to further promote the UAE as a leading nation in terms of providing excellence in the field of government services." The workshop participants were also introduced to five key indicators including the usage of eGovernment and mGovernment services, customer satisfaction levels, public awareness levels, government services and government website's commitment to quality standards. (September 2, 2015) tra.gov.ae



⊖ REGULATORY ACTIVITIES BEYOND THE SAMENA REGION

REGULATORY UPDATES

African Telecom Union (ATU)



Chinese technology firm Huawei and the African Telecommunication Union (ATU) have inked a Memorandum of Understanding (MOU) aimed at enhancing information and communication technology (ICT) capability and literacy in Africa. It was revealed within the report that Huawei Technologies Kenya Country Manager, Dean Yu, told a media briefing in Nairobi that his firm will provide technical support to African states to increase their uptake of ICT. "We will leverage our resources in order to introduce the most innovative solutions to Africa," Yu said on the sidelines of the ICT media training workshop. According to the report, under the agreement, the Chinese technology giant will share its vast technical know-how in order to spur ICT development on the continent. Huawei has presence in most of the 54 African states where it works closely with telecom firms to expand coverage mobile telephony. "Our aim is to ensure that Africa is able to bridge its digital divide," said the country manager, adding that ICT can be used to improve the efficiency of all sectors of the economy. "There is a positive correlation between level of ICT use and the level of economic development," he added. ATU Secretary General Soumalia Abdoukarim

said that Africa, whose broadband penetration rate stands at approximately ten percent, is the lowest of any region in the world, and Huawei will help African states develop and implement their national broadband strategies. The reports revealed that African states have set a goal of achieving universal broadband access by the year 2020. Abdoukarim said that some countries such as Kenya are leading the continent in broadband connectivity through national programs. The secretary general urged governments to provide incentive for the private sector to rollout broad band, especially to the rural areas. "Through use of broadband, the education and health sectors can reach the level of developed countries," he said.

(September 22, 2015) telegeography.com

Albania



As of September 1, 2015, the Authority of Electronic and Postal Communications (AKEP) of Albania has approved the abolition of restrictions governing the use of 900MHz, 1800 MHz and 2100MHz spectrum by the country's cellcos. Going forward, the watchdog notes that operators will be free to utilize their respective spectrum allowances as they see fit, and can deploy systems based on 2G GSM, 3G UMTS, 4G

LTE and WiMAX platforms. The decision formed part of an amendment to the National Plan for Broadband Development, the regulator says. TeleGeography notes that Telekom Albania and Vodafone both launched commercial LTE networks in July this year, using the 2600MHz band. However, a flurry of recent licensing activity has prompted the regulator to open up other bands for 4G use. 1800MHz licenses were awarded to Altelecom, Telekom (formerly AMC) and Vodafone on March 20, 2015, while May 11 saw all four cellcos (including Plus Mobile) issued with 2x5MHz blocks in the 900MHz band. Meanwhile, Vodafone and Telekom also secured 2600MHz spectrum on May 11, while the distribution of paired spectrum in the 1900MHz/2100MHz band was subsequently authorized on June 22, with Altelecom and Telekom scooping the frequencies. (September 2, 2015) telegeography.com

Australia



Would-be participants in Australia's upcoming auction of spectrum in the 1800 MHz band have until 1 October to submit their applications, the government announced late last week. The Australian Communications and Media Authority (ACMA) plans to auction off 1800 MHz airwaves in regional Australia in November. It will also sell off airwaves in the same band that were left over following the recent reissue of expiring spectrum licenses. The available spectrum has been split into 147 lots, with reserve prices calculated on the basis of A\$0.08/MHz/pop, "a figure chosen to maximize the overall public benefit with a view to ensuring the efficient allocation and use of the spectrum," the ACMA said. Starting prices for the airwaves vary by region: at the bottom of the list, Darwin and Regional South Australia carry reserve prices of A\$106,000 (€67,000) and A\$137,000 respectively, while in South Queensland (Maryborough) and Adelaide prices start at A\$917,000 and A\$1.13 million (€715,000). Auction participants will be able to acquire a maximum of 2 x 25 MHz of available spectrum, a rule the ACMA says will "promote diversity and competition" among spectrum holders. It notes that the auction format will enable new licensees to gain access to the 1800 MHz band. The ACMA points out that there is growing demand for 1800 MHz spectrum in regional Australia, driven primarily by the availability of LTE equipment in the band for the delivery of mobile broadband services. As such, the authority has been working on a plan to allocate the airwaves for the past few years. (September 15, 2015) totaltele.com

The communications regulator has opened applications for participation in the country's auction of 1800MHz spectrum in regional areas, releasing details of the starting prices for all lots to go on sale. Earlier this year the Australian Communications and Media Authority revealed it would impose limits on the amount of spectrum able to be purchased by one entity. Bidders can only buy a maximum of 2 X 25MHz chunks of spectrum out of the 2 X 60MHz for sale. The spectrum - which has predominantly been used for backhaul, but for which large parts remain unused - will go to auction in November. Telstra, Optus and Vodafone presently use 1800MHz to deliver 4G services to metropolitan areas. The ACMA will auction regional spectrum in the 1725-1785 MHz band as well as 1820-1880 MHz, alongside spectrum that has become available after the reissuance of expiring licenses. The spectrum will be divided into 147 lots. "The ACMA expects there will be widespread interest in this band, which is internationally-harmonized for mobile broadband applications," the regulatory body

said. Applications for the auction close on October 1. Starting prices for the spectrum also function as the reserve prices for each lot, the ACMA said, and were calculated on the basis of \$0.08/MHz/pop. Prices in regional NSW start from \$266,000 in the west, \$421,000 in the north, and \$455,000 in the south. In Queensland, bidding will start from \$199,000 in northern areas, \$917,000 in the south, and \$305,000 in central regional areas. Bidders interested in South Australian regional spectrum will be asked to bid more than \$137,000, while those after 1800MHz in WA will need more than \$237,000. In Canberra and parts of the NSW south coast bidding will start from \$565,000; in regional Victoria prices will start at \$705,000; in Tasmania, \$438,000; and in Darwin, \$106,000. Adelaide prices start from \$1.1 million. The online auction will be conducted using software from Power Auctions. All lots will be open for bidding at the same time. Early this year the ACMA asked the Communications Minister for the ability to reallocate regional 1800MHz spectrum by issuing new licenses, a request that was later approved. The regulatory body had noted increasing demand for the spectrum from numerous interested parties, mainly due to the ability to utilize LTE technology in the band to deliver mobile broadband. (September 11, 2015) itnews.com.au

Bahamas



The selection process for the Bahamas' second mobile licence has been delayed again, after a spectrum auction scheduled to take place this week was postponed for a second time with 'no indication as to why', Tribune Business writes, citing unnamed sources close to the liberalization process. The auction forms the second stage of the selection process, with the outcome weighed-up alongside the bidders' original proposals and the new concession going to the overall winner. Sector watchdog the Utilities Regulation and Competition Authority (URCA) postponed the auction from April this year in order to investigate the erection of telecom towers by one of the bidders, Cable Bahamas Ltd (CBL). It was ruled earlier this month that CBL had indeed breached the rules of the auction by building the towers, although the infraction did not warrant the company's exclusion from the competition. Whilst the reason for the most recent postponement is not known, other sources close to the process told the news outlet that the delay was 'not material,' and that the auction was 'absolutely imminent.' Stephen Bereaux, URCA's director of policy and regulation, seemed to confirm that the process had stumbled, describing the scheduling as 'a significant task,' adding: 'Scheduling the spectrum auction means ensuring all the parties, and their consultants and advisers, and URCA and its consultants, are together at the same time.' Nevertheless, the official said that the regulator is still hoping to complete the auction in September. (September 17, 2015) telegeography.com

The Bahamas' Cellular Liberalization Task Force (CLTF) has announced that it has resumed the second phase of the selection process to allocate the nation's second mobile concession, and will hold the delayed auction later this month. The committee postponed the selection process in April this year pending an investigation by the telecom watchdog the Utilities Regulation and Competition Authority (URCA) into the purpose of several telecom towers constructed, or being constructed, by one of the prospective bidders, Cable Bahamas Limited (CBL), in New Providence. URCA determined that CBL had breached the rules of the auction, but the infraction did not warrant disqualification from the selection

process, with the cable operator receiving a financial penalty instead. Virgin Mobile Bahamas is CBL's only competition for the country's second mobile license, after Digicel dropped out of the running earlier this year, without specifying the reason behind its decision, although the pan-Caribbean group had previously been critical of the onerous restrictions that would be placed on the newcomer. In a related development, Tribune 242 writes that the chief executive of the Bahamas Chamber of Commerce and Employers Confederations (BCCEC), Edison Sumner has called for the government to consider inviting more companies to bid on the license, noting that the government had previously expected at least five operators to reach this stage. Mr. Sumner noted that his own company, IP Solutions International (IPSI) had withdrawn from the competition due to the restrictions placed on the winning bidder, specifically the requirement to relinquish a majority stake in the company to Bahamian investors. 'The fact [that] only two bidders made it through this process and other serious contenders, for whatever reason, dropped out, should give the government cause to examine this process again and see if it wants others to participate at this late stage,' Mr. Sumner said, adding: 'A greater number of participants creates a better level of competition, and a better chance to get good quality responses.'

(September 2, 2015) telegeography.com

Belgium



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

(July 20, 2015) telegeography.com

Bulgaria



Bulgaria's telecoms regulator the Communications Regulation Commission (CRC) has announced plans to hold a tender for the authorization of the use of frequencies in the 2500MHz-2690MHz spectrum band with Decision No 411 dated August 31, 2015. The regulator disclosed that it aims to award three 2x20MHz paired blocks (frequency division duplex [FDD]) and one 2x10MHz paired block in the 2500MHz-2570MHz/2620MHz-2690MHz band and five 1x10MHz blocks (time division duplex [TDD]) in the 2570MHz-2620MHz band. All parties are invited to submit their interest in the tender by September 15, 2015. In April 2013 the Bulgarian government announced that the National Security Service (NPS) will start the release of frequencies in the 2500MHz-2690MHz band (occupied by the military), for terrestrial systems capable of providing communications services. The CRC opened a tender (with Decision No 489 of July 9, 2013) for five 2x5MHz paired blocks and three 1x5MHz blocks in the band in July 2013. The licenses were to be issued for a ten year period, with operators required to establish and operate 3G and/or 4G networks covering 35% of the territory within two years from license award, going on to reach 55% coverage within five years. Citing a lack of interest, however, the CRC cancelled the tender in August. (September 7, 2015) telegeography.com

Canada



Nationwide operators Telus and Bell Canada were declared winners of residual AWS-3 (2100MHz/1700MHz) 4G spectrum licenses at the end of August in the 'leftover' concession auction run by Industry Canada. Telus paid CAD58 million (USD43.8 million) for six additional AWS-3 license blocks covering Manitoba and Saskatchewan, while Bell secured another nine AWS-3 concessions (three in each of the Far North territories: Yukon, Northwest Territories and Nunavut) costing CAD206,000. The two national operators outbid SaskTel (in Saskatchewan), MTS (Manitoba) and SSI Micro (Far North). There were no takers for three leftover 700MHz licenses. The main AWS-3 auction earlier this year augmented the Canadian cellcos' existing AWS-1 frequencies (awarded in 2008). In March 2015 Telus paid CAD1.511 billion for 15 regional 2100MHz/1700MHz license blocks in British Columbia, Alberta, Saskatchewan, Manitoba, Southern Ontario, Eastern Ontario, Eastern Quebec and Southern Quebec, and following the residual auction Telus now has 21 AWS-3 spectrum licenses covering all major regions of the country. In March 2015 Bell bid CAD499.9 million for 13 AWS-3 regional license blocks in Newfoundland & Labrador, Nova Scotia, Prince Edward Island, New Brunswick, Northern Quebec, Southern Ontario, Northern Ontario, Nunavut, Northwest Territories and Yukon, meaning it now holds a total of 22 blocks in the band. The March 2015 auction also saw Wind Mobile, Videotron and Eastlink buy AWS-3 concessions set aside for newer entrants.

(September 11, 2015) telegeography.com

Colombia



The Ministry of Posts and Telecommunications Cambodia (MPTC) has ruled that the country's cellular subscribers must register their details with their mobile operator or at a police station within the next three months, or face the disconnection of their service, as the government launches a crackdown on unregistered SIM cards. The Phnom Penh Post reports that retailers or distributors could be arrested if they are found to be selling unregistered SIM cards under the new measures, which are aimed at curbing criminal activities carried out using mobile phones. 'Telecom operators must tell customers, including foreigners, that they must complete ID documents within three months or their numbers will be automatically deleted,' announced the National Police's deputy chief, Chhay Sinarith, at a joint press conference with MPTC Director General Mao Chakyra. He added that up to 70% of the country's roughly 20 million SIM cards are currently unregistered. Responding to the measures, Smart Axiata's CEO Thomas Hundt said: 'We will work together with the industry and regulatory bodies to ensure that the directive is being complied to'. He added that while Smart's dealers were already required to collect ID information from customers, some retailers were not observing the policy strictly, and said that the firm would take measures to ensure compliance.

(September 28, 2015) telegeography.com

Cote d'Ivoire



Cote d'Ivoire's Autorite de Regulation des Telecommunications de CI (ARTCI) has invited Expressions of Interest (EoI) for a new telecoms concession in an effort to 'revitalise the market'. Going forward, the

watchdog seeks to reduce the number of licensees to four 'global' concession holders, which will include one new operator 'capable of taking an active part in the development of the Ivorian telecoms market', alongside three existing operators Orange, MTN and Moov. The ARTCI has promised an 'optimal redistribution of spectrum resources', while the successful bidder will be expected to deploy networks capable of supporting mobile and fixed telephony, data transmission and internet access. The regulator notes that the pre-selection of operators will be primarily 'based on reputation'. EoI must be submitted no later than 30 September 2015 and the list of shortlisted candidates will be revealed on October 10, 2015. Shortlisted operators will then have a period of one month to finalize their submission. In June this year the government reportedly 'nationalized' debt-wracked mobile trio GreenN Cote d'Ivoire, Comium Cote d'Ivoire and (the now defunct) Cafe Mobile, over unpaid taxes and license fees, with a view to merging them into a single company. It was stated at that juncture that a stake in the consolidated mobile business would then be sold to a strategic partner. India's Bharti Airtel, Nigeria's Globacom and Vietnam's Viettel Group have all been named as potential strategic partners.

(September 17, 2015) telegeography.com

Cyprus



Cyprus' Ministry of Communications & Works has opened a public consultation for a proposed tender for communication network licenses using the 800MHz, 1470MHz, 2600MHz and 3600MHz frequency bands. Under the terms set out by the document, the spectrum available for use was listed as follows:

- 2x30MHz in the 832MHz-862MHz/791MHz-821MHz band;
- 40MHz in the 1452MHz-1492MHz band;
- 2x70MHz paired blocks in the 2500MHz-2570MHz/2620MHz-2690MHz and 1x45MHz in the 2570MHz-2615MHz band; and
- 400MHz in the 3400MHz-3800MHz band.

The regulator disclosed that four authorizations (three frequency division duplex [FDD] and one time division duplex [TDD]) will be offered in the 800MHz and 2600MHz bands – most suitable for Long Term Evolution (LTE) services – with geographical coverage obligation of 60% by end-2018 and 75% (2020). A total of six concessions – three TDD and three FDD – in the 3600MHz band (suitable for WiMAX services) will be offered to existing mobile network providers and newcomers. All authorizations will be valid for 15 years. The ministry has invited all interested parties to submit their comments on the proposed auction provisions by October 2, 2015, while also requesting comments on the potential use of spectrum in the 1470MHz band.

(September 7, 2015) telegeography.com

El Salvador



The government of El Salvador has presented a bill to Congress proposing the introduction of a 10% tax on telecommunications services, according to El Nuevo Diario. Entitled 'Special Contribution for Citizen Security and Coexistence', the tax is intended to earn an annual contribution of US\$140 million to security, specifically for the implementation of measures envisaged under the El Salvador Insurance Plan. The tax is to be paid by users and resellers of telecoms services; a date has not been given for its possible implementation.

(September 21, 2015) telegeography.com

European Union



An overarching review of EU telecoms regulations has been launched by the European Commission. The Commission said the review is aimed at understanding whether the existing rules "sufficiently incentivize" businesses operating in the telecoms market to invest in the telecoms infrastructure necessary "to meet tomorrow's high-capacity demands across the whole [EU]". The views the Commission gathers during its consultations will, it said, help to inform new "regulatory proposals" it expects to publish for the telecoms sector in 2016. It said it wants to ensure the EU's telecoms rules are sustainable, market-based, deliver a "high-performance for fixed and wireless broadband infrastructures" and are "fit for purpose for 2020 and beyond". To achieve this, the Commission said there needs to be "effective spectrum coordination, and common EU-wide criteria for spectrum assignment at national level;" and for there to be incentives created for "investment in high-speed broadband". It also said there needs to be a "level playing field for all market players, traditional and new" and for telecoms rules to be "effective". Telecoms law expert Diane Mullenex of Pinsent Masons, the law firm behind Out-Law.com, said the Commission's consultation coincides with changing consumer priorities as well as "the convergence of digital services". She said both those issues need to be addressed in a policy debate. "This needs to be done at a European level," Mullenex said. "From personal data requiring more up-to-date protection standards to the perceived barriers in switching apps and operating system, consumers do feel a need for more flexibility and clarity." In its consultation on the evaluation and the review of the regulatory framework for electronic communications networks and services, one issue the Commission asked for views on is on whether and to what extent 'over-the-top' (OTT) communication services should be regulated. OTT service providers, like WhatsApp and Skype, rely on telecoms networks run by telecoms operators to deliver rival communication services to the ones the telecoms operators provide to consumers. Telecoms companies have argued that it is unfair that the OTT providers are subject to fewer regulations than they are despite the end services delivered to consumers being essentially the same. The Commission's consultation has asked stakeholders for their views on whether it is necessary to alter how 'electronic communications services' is defined within the EU telecoms regulatory framework to ensure a "level regulatory playing field". Stakeholders have been asked if they think that "traditional electronic communications services (such as voice or video telephony, SMS/text messages, e-mails operated by telecoms providers, other services) can be functionally substituted by OTT services or platforms with communication elements (e.g. internet telephony services, web messaging services, webmail services, social media platforms, other)". If so, should those OTT services "fall under a new common definition" for 'electronic communications services', the Commission asked. Among the other issues that the Commission has asked for stakeholders' views on is whether allocation of radio spectrum across Europe should be more harmonized and whether any "barriers" to the access of harmonized spectrum need to be removed "in order to foster economies of scale for wireless innovations and to promote competition and investment". The Commission also framed questions around the sharing of spectrum. It said spectrum sharing "should enhance competition from additional users and in particular should not create undue competitive

advantages for current or future right-holders or result in unjustified restrictions of competition". "In principle, beneficial sharing opportunities (BSO) can be identified, in both licensed and license-exempt frequency bands, wherever the combined net socio-economic benefit of multiple applications sharing a band is greater than the net socio-economic benefit of a single application, taking into account additional costs resulting from shared use," it said. The Commission's consultations are open until December 7. EU commissioner for the digital single market Andrus Ansip said: "The internet is the oxygen of our digital economy and society. We are more and more connected, at every moment, everywhere. This means that access to high-speed and high-quality internet has become essential to every European: people, companies, organizations or public bodies." (September 11, 2015) out-law.com

Finland



Almost a quarter of Finnish households now have a fixed broadband connection that offers downlink speeds of more than 100Mbps, according to new data published by the Finnish Communications Regulatory Authority (FICORA). In total, of the 1.730 million fixed broadband accesses in the country at end-June 2015, 23% of these were capable of a downlink rate in excess of 100Mbps, compared to 20% at the end of 2014 and 18% a year earlier. Meanwhile, the proportion of customers connecting at slower speeds continued to diminish, with just 2% of all customers signed up to a service offering a downlink rate of 2Mbps or below, compared to 3% at mid-2014. In terms of access types, although xDSL remained the most popular, the proportion of customers connecting via the technology fell to 895,000 at 30 June 2015, down from 963,000 six months earlier and 996,000 at mid-2014. By comparison, Ethernet and fiber-to-the-x (FTTX) connections combined to total 412,000 at end-June 2015, up from 347,000 twelve months previously, with cable broadband accesses also rising, from 351,000 to 401,000 over the same period. Meanwhile, with regard to pricing, the FICORA said that telephone and data transfer services were becoming increasingly less expensive when measured in terms of the average monthly price paid by consumers. As an example, the regulator said that while the average price for a broadband connection was EUR21 (USD23.8) per month in 2014, in the first half of this year that figure had declined to EUR19. (September 18, 2015) telegeography.com

France



Starting on May 25, 2016, Free Mobile will have a 15 MHz duplex in the 1800MHz band. ARCEP has adopted a decision assigning the operator an additional 10 MHz duplex on that date, to supplement the 5 MHz duplex which it has already been assigned in this band. This decision follows through on the decisions adopted on 4 April 2013 and 30 July 2015, which set the terms and conditions for Bouygues Telecom, Orange and SFR refarming the band for 4G, and which plans on having these three operators relinquish a portion of their frequencies so that they might be assigned to Free Mobile. This marks the final stage in implementing the guidelines on introducing technological neutrality in the 1800 MHz band, which were published on 12 March 2013. (September 16, 2015) cellular-news.com

The telecom regulator ARCEP has awarded the operator an additional 10MHz in the 1800MHz band, adding to its pre-existing 5MHz holding. From May next year, the

Iliad-owned telco will hold 15MHz duplex in France's highly pressurized mobile marketplace. ARCEP said the decision is the result of terms laid out in April 2013 and July this year for the re-farming of 4G spectrum from Bouygues Telecom, Orange and SFR so that some of it can be relinquished to Free Mobile. Bouygues, Orange and SFR will each hold 20MHz following the changes. France's mobile marketplace has undergone significant turbulence following Free's arrival, with Bouygues experiencing ongoing losses and Orange having only just returned to growth. Meanwhile, Free's financials continue on the up. The operator saw sales grow seven percent to €2.16 billion between January and June, while profits rose 16.4 percent to €163 million. According to Iliad, Free now holds a 16 percent share of the country's mobile market with nearly 11 million subscribers.

(September 14, 2015) mobileeurope.co.uk

Guam



Guam's Public Utilities Commission (PUC) has approved the acquisition of full-service telecoms operator GTA by PT Telekomunikasi Indonesia (Telkom), Pacific Daily News reports. The Indonesian company revealed in June that it had reached a definitive agreement to acquire GTA from funds serviced by Japanese private equity firm Advantage Partners. Under the terms of the transaction, Telkom USA (established in December 2013 as an international arm of Telkom) will acquire GTA's parent company TeleGuam Holdings. The deal also requires approval from the US Federal Communications Commission (FCC). Telkom noted that Guam's geographically strategic location – numerous submarine cables between Asia and the US land on the island – will improve its position in the Asia Pacific region as a hub for international traffic. The acquisition will strengthen the Indonesian firm's portfolio of international operations, which includes Telin Singapore, Telin Hong Kong, Telkom Australia, Telkom Taiwan, Telkom USA, Telin Malaysia, Telkom Macau, Telin Timor-Leste and a branch in Myanmar. TeleGeography's GlobalComms Database states that Advantage Partners acquired GTA from Shamrock Capital Advisors in June 2011. The latter had bought GTA from the government in January 2005.

(September 1, 2015) telegeography.com

India



India's Department of Telecommunications (DoT) expects to complete a spectrum swap with the Ministry of Defense (MoD) that will free up 15MHz of 2100MHz band frequencies for commercial use by end-December this year, the Economic Times writes. The two ministries agreed earlier this year to a spectrum swap, through which the MoD would return its 15MHz of frequencies in the 2100MHz band in exchange for the same amount of spectrum in a dedicated 'Defense Band' in the 1900MHz range. According to a senior DoT official, the ministry is in the final stages of harmonizing the spectrum and expects to complete the process by December 2015, at which point the DoT 'will be in a position to decide who will go where and what will be the time frame.' The process will increase spectrum efficiency and free up additional frequencies for commercial use, the official added. (September 29 2015) telegeography.com

The Indian government's recent rulings on spectrum trading and sharing is expected to complicate the proposed merger of Reliance Communications (RCOM)

and Sistema Shyam TeleServices (SSTL), as the Russian-owned operator would be required to pay out an additional INR30 billion (USD450.5 million) to the government, the Economic Times reports. Under the new rules for trading spectrum, if an operator wishes to trade 800MHz frequencies awarded in the March 2013 auction it must pay the government the difference of the original price and the most recently discovered price (i.e. the March 2015 price). The additional charge is based on the fact that the airwaves awarded in March 2013 were non-contiguous, whilst the most recent allocation of 800MHz frequencies were contiguous, and therefore more valuable, as they can be used for 4G services. Commenting on the issue, a spokesperson for SSTL was quoted as saying: 'Regarding the issue relating to payout of any kind on account of spectrum contiguity, the matter is sub-judice with TDSAT [Telecom Dispute Settlement and Appellate Tribunal] since February 2015 and the company is hopeful of a favorable judgment in this regard.' The spokesperson also stressed that talks regarding a tie-up with RCOM are 'indicative and non-binding in nature.' (September 11, 2015) [telegeography.com](#)

Spectrum trading is expected to reduce the number of telecom operators leading to a higher market share as well as curb aggressive bids in the upcoming auction of mobile airwaves, credit rating firms Fitch and Ind-Ra today said. With the new norms that allow telecom operators to sell spectrum, the industry could see emergence of four pan-India players -- Bharti Airtel, Vodafone India, Idea Cellular and Reliance Jio Infocomm -- while others may exit, according to India Ratings and Research (Ind-Ra). The agency expects Aircel, Reliance Communications and Tata Teleservices to head to the exit door. "Aircel may consider exit in Gujarat, Haryana, Kerala and Madhya Pradesh. Reliance Communications may look to monetize its under-utilized spectrum in Jammu and Kashmir, the North-East, and similarly, Tata Teleservices may evaluate exit options for Himachal Pradesh and Rajasthan," Ind-Ra said. "The top three telcos, including market leader Bharti Airtel, have increased their combined revenue market share to 73 per cent... their ability to trade spectrum may curtail excessive bidding in future spectrum auctions," Fitch said. The government received the highest bid of over Rs 1.1 lakh crore in spectrum auction held in March. Idea Cellular made a bid worth Rs 30,307 crore to purchase spectrum. Fitch Ratings is of the view that the top three telecom operators -- Bharti Airtel, Vodafone and Idea Cellular -- may further consolidate their market share by acquiring additional spectrum from smaller telcos, decongest their network, and support their fast-growing 3G/4G services. Spectrum trading coupled with sharing will spur consolidation as it provides an exit route to smaller loss-making telcos that have struggled to generate positive operating cash flows, the agency said. "Smaller telcos -- including Tata Telecom, Videocon Telecom and Aircel -- suffer operating losses, are struggling to gain market share, and are saddled with high debt. These businesses could trade their under-utilized spectrum assets with larger telcos in loss-making Indian circles to focus only on profitable ones," Fitch said. Reacting to Fitch observations, Videocon Telecommunications Director and CEO Arvind Bali said: "I think it's too early for anyone to comment on our financial and business health. We are a long-term and serious player, and we are here to stay." Additionally, Fitch Ratings said, the spectrum trading and sharing guidelines are likely to reduce regulatory uncertainty and ease network congestion that can help in reducing call drops. (September 10, 2015) [newindianexpress.com](#)

Italy



The Italian government's finance committee, the Comitato interministeriale per la programmazione economica (CIPE), has said it will be releasing the first EUR300 million (USD336 million) funding for the country's ultra-broadband rollout program in 2016. The body says that a further EUR450 million will be made available in 2017, EUR500 million in 2018 and 2019, and EUR450 million in 2020, taking the total funding to EUR2.2 billion. The government monies will go towards deploying high speed infrastructure in unserved and underserved areas, which are home to around 35% of Italy's population. Further capital will come from the EU, taking public funding to around EUR7 billion, while the private sector is expected to come up with around EUR5 billion as part a wider 20-year broadband development scheme. Under the Italian government's plan, 85% of all households will have access to a 100Mbps connection by 2020, with the remaining homes being offered a minimum 30Mbps service. Tenders for the first phase of the network rollouts are expected to be launched before the end of the year. (September 29, 2015) [telegeography.com](#)

The Italian telecoms regulator Agcom has announced that four of the country's dominant 'full' MVNOs must apply the same mobile termination rate (MTR) as network operators TIM, Vodafone, Wind and 3 Italia. The watchdog has completed an analysis of the market for voice call termination on individual mobile networks, and now says that resellers Poste Mobile, BT Italia, Lycamobile and Noverca should be subject to an MTR of EUR0.0098 (US\$0.0128) per minute, covering the period 2014-2017. While not owning any wireless spectrum, the four full MVNOs do provide voice termination to other operators using their own infrastructure. Italy was home to an estimated 6.6 million MVNO customers at the end of June 2015, according to Database, with Poste Mobile accounting for more than 52% of the overall MVNO market by subscribers. (September 15, 2015) [telegeography.com](#)

Italy's Ministry of Economic Development has raised EUR462 million (US\$518 million) from the sale of L-Band spectrum in the 1452MHz-1492MHz range. TIM (formerly Telecom Italia) paid EUR230.3 million for its 20MHz allocation (1452MHz-1472MHz), while Vodafone paid EUR231.9 million for frequencies between 1472MHz and 1492MHz. The spectrum is currently designated for digital radio broadcasts in Italy but is largely unused. The European Union is pushing for the L-Band to be harmonized for mobile broadband use.

(September 11, 2015) [telegeography.com](#)

International Telecom Union



The ITU's latest broadband report made for disappointing reading on Monday, as the UN telco body revealed it has missed its 2015 broadband targets and admitted those same targets are unlikely to be met by 2020. The ITU and UNESCO's Broadband Commission for Digital Development announced on Monday that global broadband uptake will reach 3.2 billion in 2015. This equates to around 43.4% of the world's population, some way off the target of 60% set by the UN in 2011. Broadband penetration in developed economies is nearing saturation, with 82.2% of people online as of 2015. The picture is somewhat different in developing countries though, where Internet penetration is set to surpass 35.3% by the end of the year, below the Broadband Commission's 50% target. In so-called least

developed countries (LDCs), penetration will reach 9.5%, missing a target of 15%. "The UN Broadband Commission's 2011 targets have not been achieved by the target date of 2015 and seem unlikely to be achieved before 2020," the ITU said. Around 57% of the world's population, some 4 billion people, still have no access to the Internet. The ITU described the situation in the world's 48 LDCs as "critical", with more than 90% of people in those countries still lacking any kind of connectivity. "The market has done its work connecting the world's wealthier nations, where a strong business case for network rollout can easily be made," said ITU secretary-general Houlin Zhao, in a statement. "Our important challenge now is to find ways of getting online the 4 billion people who still lack the benefits of Internet connectivity, and this will be a primary focus of the Broadband Commission going forward." The Broadband Commission also said that by 2015 every country should have a national broadband plan, and that entry-level broadband services in developing countries should cost less than 5% of average monthly income. They were described back in 2011 as "ambitious but achievable targets". The ITU said on Monday that the world has made progress on affordability and broadband policy, but has still not achieved its targets. By the end of 2014, broadband cost more than 5% of the average monthly income in 85 of the world's 196 countries. In addition, 42 countries still did not have any form of national broadband plan. "We need to measure global development by the number of those being left behind," Zhao said. (September 21, 2015) totaltele.com

Kyrgyzstan



Kyrgyzstan's State Property Management Fund has reportedly concluded an auction of LTE-suitable spectrum in the 800MHz band, local news source Tazabek reports.

With the sale process having offered up three lots of frequencies in the aforementioned band, these were split as follows: 806MHz-811MHz/847MHz-852MHz, 811MHz-816MHz/852MHz-857MHz and 816MHz-821MHz/857MHz-862MHz. Having set a price of KGS238.803 million (US\$3.48 million) per concession, the three winning bidders have been named as Nur Telecom (O!), Sky Mobile (Beeline) and Megacom (Kyrgyzstan). The report did not, however, note which concession had been awarded to which company. (September 29, 2015)

telegeography.com

Mexico



Mexico's telecoms regulator on Sunday announced that it will auction off 80 MHz of mobile spectrum in the AWS-1 and AWS-3 bands in January, and called for public comments on its plans. The Federal Telecommunications Institute, known as IFT or Ifetel, said it will sell 30 MHz of AWS-1 spectrum (1710-1725 MHz/2110-2125 MHz) and 50 MHz of AWS-3 spectrum (1755-1780 MHz/2155-2180 MHz). The spectrum is suitable for the provision of LTE services, the regulator said in a statement. The contest will be open to Mexico's existing mobile operators as well as newcomers wishing to roll out a Mexican mobile network. IFT will make auction documentation available in November with a view to start the bidding process in January 2016. In the meantime, it is calling for comment on the format of the sale, including on the size of available spectrum blocks, reserve prices, and the issue of contiguous spectrum. IFT proposes selling off 5 MHz blocks of paired spectrum. Participants will be permitted to bid for multiple blocks,

but the regulator is considering setting a cap on the amount of spectrum any one player can acquire in order to facilitate the entry of new players. It proposes to carry out a combinatorial clock auction (CCA), a format commonly used in Europe and elsewhere, for what it says is the first time in Latin America. "This format generates results that improve efficiency in the use of spectrum and therefore improve competition in the long term in the mobile market" the IFT said. (September 21, 2015) totaltele.com

Moldova



Moldovan telecoms regulator the National Regulatory Agency for Electronic Communications and Information Technology (ANRCETI) has invited applications from local and international companies interested in participating in an upcoming auction for public mobile spectrum licenses. A total of 16 spectrum licenses will go under the hammer, including one license for frequencies in the 800MHz band, two for the 900MHz band, two concessions in the 2100MHz range, three in the 2600MHz band, and eight licenses in the 3400MHz-3800MHz range. Potential bidders are required to submit applications to the ANRCETI by November 13. (September 25, 2015) telegeography.com

Nigeria



Nigerian telecom operators have been ordered by Nigeria's president, Muhammadu Buhari, to deactivate 37.79 million mobile phone lines as part of a move to eradicate the Boko Haram insurgency within three months. The move is designed to hit the terrorist group, which uses mobiles to co-ordinate mass atrocities. This is according to a report by TechForge via Telecompaper. The report reveals that four of the biggest mobile operators in the country, MTN, Airtel, Glo, and Etisalat, all deactivated mobile lines with unregistered, or improperly registered, subscriber information since 7 September, resulting in a NGN 251.94 million (USD 1.25 mln) daily loss of revenue. Etisalat had the most improperly-registered lines and 19.46 million deactivations, followed by MTN (18.6 mln), Airtel (7.4 mln) and Glo (2.33 mln). The report reveals that the decision to deactivate mobile lines was made after a meeting between network operators, telecom regulator NCC, the Office of the National Security Adviser (ONSA) and Department of State Service (DSS).

(September 18, 2015) itnewsafrika.com

The National Broadcasting Commission (NBC) has reportedly awarded spectrum in the 700MHz band to MTN Nigeria, the country's largest mobile operator by subscribers. the NBC's director general, Emeka Mba, as saying that the licensing would help fund the digital switchover process, which would lead to more spectrum being freed up and reallocated. In response to criticism that telecoms regulator the Nigerian Communications Commission (NCC) was not informed of or involved in the spectrum deal, Mba said that the NBC is responsible for frequencies in the 700MHz band, as it is broadcasting spectrum. 'The NBC and the NCC regulate separate and clearly demarcated sections of the spectrum. Each administers its own bundle without interference from the other. The basis for prior notification of the NCC ahead of the licensing of MTN does not arise at all, constitutionally, legally and by regulatory practice. The license issued was for a converged digital broadcasting license based on the existing National Frequency Management Commission (NFMC) protocol for broadcast,' he said. (September 17, 2015) Daily This Day

Peru



Peruvian telecoms regulator Organismo Supervisor de Inversión Privada en Telecomunicaciones (Osiptel) has published proposals for the introduction of regulations governing net neutrality. 'These rules protect the rights of customers to use any type of traffic, protocol, application or service of their choice – within legal limits – and use internet access services,' Osiptel president Gonzalo Ruiz Diaz explained, noting: 'In addition, these proposals establish a predictable framework conducive to the development of new internet-related products and services.' The proposed regulations would prohibit internet service providers (ISPs) from using measures to arbitrarily manage bandwidth, or prioritize, degrade or limit particular types of traffic. Further, providers may not block ports, domain names, IP addresses or applications arbitrarily. In certain cases, however, Osiptel may permit the implementation of the measures listed above. Similarly, operators will be permitted to establish measures blocking applications and services that are deemed to be illegal. Interested parties have until October 9, 2015 to submit their comments. (September 9, 2015) [telegeography.com](#)

Poland



Poland has been running an auction of mobile spectrum for more than seven months, but the process may finally come to an end in the coming weeks following government intervention. The state will allow regulatory body the Office of Electronic Communications (UKE) to speed up the sale by setting a deadline for its conclusion, Reuters reported. The auction could be brought to a close in the first 10 days of October; the newswire quoted the head of Poland's Ministry of Administration and Digitisation, Andrzej Halicki, as saying. He added that facilitating the distribution of the spectrum is in the best interests of the population. Poland is selling off spectrum in the 800 MHz and 2.6 GHz bands. On Thursday bidding had reached 7.6 billion zloty (€1.8 billion), according to the UKE. The bulk of the spend is in the 800 MHz band, which accounts for almost PLN7.1 billion of the total. (September 25, 2015) [totaltele.com](#)

The government initially aimed to raise upwards of PLN1.6 billion, Bloomberg reported at the start of the year, although analysts predicted the final total would come in at around twice that amount. The Polish government has approved measures which will allow the ongoing 4G spectrum auction to be brought to an early close. The Minister of Administration and Digitization, Andrzej Halicki, has given the Office of Electronic Communications (UKE) legal power to end the bidding, which has been running since February and shows no signs of ending. Authorities are concerned that the high cost of spectrum – bids already total PLN7.39 billion (US\$1.95 billion) – will be passed on to consumers in the form of tariff hikes. UKE had previously tabled a plan to end the auction after 115 days of bidding, which is expected to see an end to the sale by mid-October. Olympia Development, the Greece-based owner of Poland's fourth largest cellco P4/Play, is threatening to sue for up to EUR500 million (US\$557 million) in 'tangible damages' and an 'irreversible infringement of interests' should the sale be interrupted. Other bidders, including number three player Polkomtel and market leader T-Mobile, have also criticized the plans to cut short the auction process. However, Magdalena Gaj, the head of

UKE, has told Reuters: 'Every frequency sale process in Poland was subject to legal quarrels and this one will surely not be any different ... In no way does it (Halicki's decision) limit the rights of auction participants. And there will always be winners and losers.'

(September 25, 2015) [telegeography.com](#)

Ministry of Administration and Digitization (MAC) has begun a week-long consultation into the possibility of ending the country's ongoing 4G wireless spectrum auction. According to a report from Rzeczpospolita, the MAC is considering imposing a 115-day limit on the bidding process, which would force the sale to a halt next month. Although the auction began more than six months ago, there have been several pauses to enable operators to make deposit payments, meaning that so far there have been around 100 days of actual bidding. The six firms in the running for frequencies have to date entered offers totaling PLN6.68 billion (US\$1.77 billion), well above the PLN1.6 billion reserve price. While authorities are worried that the winning bidders will be forced to recoup the hefty license fees by passing the charges on to consumers in the shape of higher tariffs, there has been speculation that any government interference in the auction could result in legal action being taken by cellcos unhappy with the final results. There have been suggestions that the auction should be cancelled altogether and restarted in a different format. The bidders include existing cellcos Orange Polska, T-Mobile Poland, Polkomtel and P4 (Play), plus a company associated with Emitel, and NetNet, which is owned by Szymon Ruta, who has links to Cyfrowy Polsat and Polkomtel. (September 4, 2015) [telegeography.com](#)

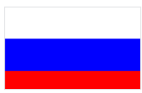
Romania



Romanian regulator ANCOM has launched the selection procedure for the upcoming 3.4GHz-3.8GHz broadband wireless access (BWA) license auction, with a deadline for applications set as October 5. Qualified bidders will be announced by October 12. If demand exceeds the available spectrum resources, a primary auction round is scheduled to begin on 26 October 2015. New concessions in the band – currently occupied by Radiocom, 2K Telecom, Orange, Vodafone and UPC – will take effect on January 1, 2016 for ten years. (September 11, 2015) [telegeography.com](#)

Romania's National Authority for Management and Regulation in Communications (ANCOM) has confirmed details relating to its upcoming tender for spectrum in the 3410MHz-3600MHz and 3600MHz-3800MHz bands. By year-end the regulator expects to auction off 16 paired blocks (2x5MHz) of spectrum in the 3410MHz-3600MHz band, alongside 36 unpaired 5MHz blocks of 3600MHz-3800MHz spectrum; all frequencies will be available on a nationwide basis, and be made available for wireless broadband use. As per a government decision dated 26 August 2015, starting bids for blocks of 3410MHz-3600MHz spectrum will begin at EUR370,000 (US\$414,000), with a 50% reduction for the 3600MHz-3800MHz frequencies (EUR185,000). The new spectrum usage rights will enter into force from January 1, 2016 and be valid for a ten-year period. According to ANCOM, there are seven 3410MHz-3600MHz licenses currently in circulation, held by Orange Romania, UPC Romania, Vodafone Romania and 2K Telecom. The sole 3600MHz-3800MHz concession is held by the National Broadcasting Company; all eight licenses are valid until December 31, 2015. (September 4, 2015) [telegeography.com](#)

Russia



Russia's four main mobile operators will take part in the auction of 1800-MHz spectrum due to take place next week, the regulator announced on Tuesday.

Roscomnadzor said it has processed applications from MTS, Vimpelcom, MegaFon and Tele2, and all four will be able to participate in the auction. It also revealed that the auction will be carried out electronically. In July the regulator announced that the auction of airwaves in the 1710-1785 MHz and 1805-1880 MHz bands will take place on 29 September, and shared reserve prices for the available frequencies. The state is selling off spectrum in nine regions and has divided the bandwidth into 10 lots, all at different price points. The lowest starting price is half a million roubles (just under €8,000 at July exchange rates) for 1 MHz of paired spectrum in the Komi-Permyak Okrug of Perm Krai, while 15 MHz of spectrum in the republic of Dagestan starts at RUB240.4 million (€3.8 million). There are no restrictions on what type of mobile services the spectrum can be used for. While the 1800 MHz band was previously set aside for voice communications, Roscomnadzor expects the winning bidders in this auction will use the frequencies for LTE. (September 23, 2015) totaltele.com

Ministry of Telecom & Mass Communications (Minsvyaz) has begun accepting applications for federal subsidies to deploy telecoms networks in the Crimea peninsula in the three-year period 2015-17. Subsidies are expected to cover 20%-80% of expenses in projects to interconnect infrastructure in the Crimea region (including the separately administered city of Sevastopol) with the Russian federal telecommunications network.

(September 22, 2015) Telecompaper

Senegal



Senegal's telecoms regulator L'Autorite de Regulation des Telecoms et des Postes (ARTP) has launched mobile number portability (MNP), enabling the country's consumers to retain their phone number if they switch wireless service provider. The transfer of a mobile number to a different operator is free of charge for consumers. At the end of last year the ARTP said it had pushed back plans to launch MNP to 2015, despite previous assurances that it would go live in October 2014. Tests relating to the introduction of the MNP system began on 22 July, ahead of a full-blown launch on September 1, 2015. (September 2, 2015) telegeography.com

Serbia



Serbia's telecoms regulator the Regulatory Agency for Electronic Communications (RATEL) has opened a tender for licenses to utilize spectrum in the 791MHz-821MHz/832MHz-862MHz range. The nationwide concessions will be technology neutral. The auction comes at a poor time for state-owned incumbent Telekom Srbija – operating in the wireless market under the Mobile Telephony of Serbia (MTS) banner – which is currently in the process of being privatized. The government received non-binding bids from eight companies for the state's 58.11% stake in the telco in mid-August. (September 3, 2015) telegeography.com

South Africa



JSE-listed Allied Electronics Corporation (Altron) is planning to sell off the mobile subscriber base of its wholly-owned subsidiary Altech Autopage Cellular, estimated at roughly one million, to Vodacom, MTN and Cell C for a combined total of ZAR1.5 billion (USD107.7 million), TechCentral reports. In addition, MTN has agreed to purchase Autopage's handset receivables book pertaining to its subscriber base for a purchase price of approximately ZAR219 million. Altron said that his mobile unit experienced a tough market and the ongoing mobile termination rate (MTR) reductions compelled it to make the decision to dispose of the GSM subscriber base and shut down the business. The deals are subject to customary regulatory approvals.

(September 24, 2015) telegeography.com

Spain



Spain is on the verge of launching a licensing process for spectrum in the 2.6 GHz band with a view to boost 4G coverage, it emerged this week. Speaking at an event in Santander on Monday, telecommunications and information society minister Víctor Calvo-Sotelo said the country will start the 2.6 GHz process "in the coming weeks." Calvo-Sotelo's opening speech at a telecoms and digital economy meeting was reported in an announcement by Spain's Ministry of Industry, Energy and Tourism. The event was organized by business association AMETIC and the Telefonica Foundation. The minister noted that 4G networks in Spain currently cover 76% of the population, and that the use of digital dividend spectrum for mobile will help boost that figure. Spain carried out a previous auction of 800-MHz and 2.6-GHz airwaves in mid-2011. That sale raised €1.65 billion. Calvo-Sotelo also addressed the issue of fiber rollout in Spain. 61% of the population has access to speeds of 100 Mbps, while 65% has access to 30 Mbps broadband, he said. (September 2, 2015) totaltele.com

Thailand



Six companies, including the country's main mobile operators, have collected bidding documents for Thailand's upcoming 4G spectrum auctions, but the state is still vacillating over the timing of the sale. AIS's Advanced Wireless Network, DTAC subsidiaries DTAC TriNet and DTAC Broadband, True Move's True Move H Universal Communication and Hutchison Telecommunications (Thailand), and Jas Mobile Broadband picked up papers for the 900-MHz auction earlier this week, as soon as they became available, the Bangkok Post reported. The same six also collected bidding documents for the 1800-MHz sale last month, the paper said. Thailand has scheduled its 1800-MHz and 900-MHz auctions to take place a month apart, in November and December respectively. However, regulatory body the National Broadcasting and Telecommunications Commission (NBTC) is now considering holding both auctions at the same time, on November 11, or rescheduling the 900-MHz sale to take place first. The Bangkok Post quoted NBTC secretary general Takorn Tantasith as saying that the regulator will finalize the date for the 900-MHz sale by October 15. Would-be bidders will be able to acquire bidding documents until October 21 and have until October 22 to submit their applications. Whenever the auction happens, the state has four 4G licenses available, two at 900 MHz and two at 1800 MHz.

(September 24, 2015) totaltele.com

National Broadcasting and Telecommunications Commission (NBTC) has confirmed that the auction of two technology-neutral 900MHz mobile spectrum licenses will go ahead on December 15, 2015, under a resolution approved by the watchdog's telecom committee, the Bangkok Post reports. 'We decided to sell the 900MHz licenses on December 15 in line with the original plan, which the cabinet had approved in March,' a statement from the NBTC said. An earlier proposal from the regulator had mooted a 900MHz auction on or near to the upcoming 1800MHz 4G auction set for November 11, but an NBTC spokesperson was quoted by the Post as saying: 'We don't want to face any possible legal backlash if we hold the 900MHz auction together with the 1800MHz spectrum.' The NBTC telecom committee has also approved the reserve price for a 900MHz (10MHz bandwidth) license at THB12.9 billion (US\$356.4 million) or '80% of the estimated real spectrum value.' A previous proposed reserve price of THB11.26 billion had been criticized as too low. Winners of the 900MHz licenses will have to roll out 4G networks covering half of the population within four years, increasing to 80% within eight years. (September 11, 2015) telegeography.com

The full amount of 4G 1800MHz spectrum promised for auction this November is unlikely to be available, Thailand's National Broadcasting & Telecommunications Commission (NBTC) has admitted. The Bangkok Post quotes NBTC secretary-general Takorn Tantasith as saying that the regulator 'will have to auction only two licenses of 25MHz of bandwidth, with each license of 12.5MHz, instead of two licenses of 15MHz each.' Mr. Takorn explained that the approved auction plan to include an additional 5MHz of spectrum currently allocated to Digital Total Access Communication (DTAC) requires amendments to DTAC's build-transfer-operate (BTO) mobile concession issued by state-owned CAT Telecom, which will take several months to complete before being submitted to the Thai cabinet for approval. The concession amendment is necessary in order to comply with the Public-Private Joint Venture Act. The Post's report adds that Sanpachai Huvanandana, acting president of CAT Telecom, admitted he learned only last week that the return of the 5MHz would need concession amendments. DTAC nominally holds 50MHz of 1800MHz bandwidth under the 2G BTO concession with CAT, due to expire in 2018, although it only uses 25MHz; the 5MHz portion is part of the unused 25MHz. (September 7, 2015) telegeography.com

Thailand's hopes of stimulating competition in the mobile market via its upcoming 4G auction were dealt a blow on Monday when CAT Telecom reportedly cancelled its plan to participate. According to the Bangkok Post, the state-owned telco failed to find a strategic foreign partner. The company had been in talks with Japan's NTT DoCoMo and South Korea's SK Telecom over a possible 4G MVNO deal, and the latter had allegedly agreed to bid with CAT in the auction. However, "with the degree of uncertainty regarding the auction delay and the unclear auction design, negotiations between the parties collapsed," said Colonel Sanpachai Huvanandana, acting president of CAT Telecom, in the report. Indeed, Thailand's 4G auction has been subject to repeated delay, not least because of the military coup in April 2014. Meanwhile, the Bangkok Post said Monday that CAT was also put off by having to disclose its budget and have it approved by the government ahead of the auction. "This is impractical, as other bidders would know our maximum bid. It's barring us from competing in an auction," Sanpachai said. In March Thailand revealed that it hopes to raise more than 61 billion baht (€1.5 billion) by auctioning 1800 MHz

and 900-MHz spectrum in November and December respectively. In April, it emerged that CAT had earmarked THB30 billion for 4G spectrum. It was hoped the auction would foster greater competition in a market dominated by AIS, True Corp and DTAC, but with CAT's withdrawal, that chance might be lost. (September 1, 2015) totaltele.com

Timor-Leste



Timor-Leste's General Directorate of Statistics has reported that the country ended June 2015 with a total of 1.25 million mobile customers, including 145,085 3G network users. Timor Telecom (TT), which held a monopoly on the provision of wireless services from its launch on March 1, 2003 until the licensing of two new players in mid-2012, remained the market leader with a total of 620,204 subscribers at the end of Q2 2015 (down slightly from 624,312 three months earlier), including 7,592 3G customers. Vietnamese-owned cellco Viettel Timor-Leste (operating as Telemor) had signed up 470,730 mobile users since its launch in April 2013, of which 87,493 were 3G network users, while Indonesian-owned Telin Timor-Leste (Telkomcel) reported a total of 160,000 customers at mid-2015, including 50,000 3G subscribers. (September 10, 2015) telegeography.com

Ukraine



The Ukrainian State Centre of Radio Frequencies (UCRF) has launched a public tender for the design, development and implementation of the required automated information system for a centralized number portability database. The procurement notice posted on the UCRF website indicates that applications from potential hardware and software providers should be processed next month. The UCRF's executive director Jaroslav Yanushevich has set a target of launching mobile number portability (MNP) by the end of the first quarter of 2016. (September 18, 2015) telegeography.com

United Kingdom



The telecoms regulator has given the go-ahead to the transfer of Qualcomm's L-band spectrum to Vodafone and 3UK. "We do not consider that either of the proposed transfers raises sufficient competition issues to justify further analysis," OFCOM said. The regulator said it reached its decision after conducting an initial analysis of the two deals. Qualcomm last month confirmed that it had agreed to sell 40 MHz of spectrum to the mobile operators, but did not disclose further details of the deals, including the price. There was no indication of the value of the deal from Ofcom either, but the regulator fleshed out the details a little, noting that Vodafone will take ownership of the 1542 MHz-1772 MHz frequencies and 3UK the 1472 MHz-1492 MHz. The operators bought the spectrum after the EU decided to allocate the L-band for use as supplemental downlink (SDL) to boost 4G capacity. As part of its investigation, Ofcom looked at whether the deals would create asymmetries in the allocation of spectrum in the U.K., but concluded that they would not, given that on completion of the deals both Vodafone and 3UK would still have less spectrum than rival EE (see chart). The regulator noted that a case can be made for the L band to be considered as low-frequency spectrum, since it is similar to the 800 MHz and 900 MHz bands. This could be an issue, since Vodafone already holds the maximum permitted amount of sub-1 GHz spectrum, Ofcom said. However, it

ruled that in either case the spectrum transfer would not distort competition and therefore elected to refrain from making a decision on the classification of the L band.

(September 24, 2015) [totaltele.com](#)

British mobile network operators will be required to pay significantly higher fees to use spectrum in the 900MHz and 2100MHz bands following a final ruling from sector regulator OFCOM. The telecoms watchdog has published revised annual fees, concluding that the UK's cellcos should pay a combined annual total of GBP80.3 million (US\$D123 million) for the 900MHz band and GBP119.3 million for the 1800MHz band. While the total – GBP199.6 million – represents a significant increase from the GBP64.4 million the operators currently pay, Ofcom noted that it is 13% lower than the proposals it put forward in February this year. Explaining its decision to revise its original plans, Ofcom said that the final levy for the 1800MHz band was 3% lower, reflecting a reduction in the 'discount rate' used to convert a 'lump-sum value' (of the type paid by licensees when they acquire a license in an auction) into an equivalent annual payment. Meanwhile, the final charges for the 900MHz band, which are 24% lower than the February 2015 proposals, reflect the discount rate reduction and the prices paid in Germany's spectrum auction, which concluded in June 2015. These new fees come into effect in two phases: one half of the increase, from the current to the new rates, is applicable from October 31, 2015, while the full fees will subsequently be payable annually from October 31, 2016. Additionally, despite the nation's operators having previously paid their respective charges at different points in the year, in the future there will be a single common payment date set by the regulator. Commenting on the development, Philip Marnick, Ofcom's Group Director of Spectrum, was cited as saying: 'We have listened carefully to the arguments and evidence put forward by industry, and conducted a complex and comprehensive analysis to determine the new fees ... The mobile industry has not previously had to pay market value for access to this spectrum, which is a valuable and finite resource, and the new fees reflect that value.' (September 24, 2015) [telegeography.com](#)

EE will begin utilizing the 800MHz frequencies it acquired in the February 2013 4G spectrum auction by the end of this year, according to Telecoms.com, citing comments made by the cellco's Director of Network Services and Devices, Tom Bennett. Alongside acquiring 2x35MHz in the 2.6GHz band, EE secured a 2x5MHz block of spectrum in the 800MHz band, paying GBP588.876 million (around US\$890 million) in total. With local telecoms regulator OFCOM having recently introduced a 90% geographical coverage obligation, EE is expected to utilize its 800MHz holdings to meet this requirement. Commenting on the matter, Mr. Bennett said: 'Our focus from launch was to cover as much of the UK as possible using our 1800MHz spectrum, ensuring a fantastic experience for customers who expect fast downloads ... We're at 93% population coverage now, and more than 75% indoor coverage – 800MHz will help us lift these metrics, complementing our 1800 base layer.' One other development expected to be linked to the utilization of its 800MHz spectrum is the commercial deployment of voice-over-LTE (VoLTE) technology. EE has been conducting trials of 4G over 800MHz during the course of this year, covering urban and rural areas and it is expected that the initial rollout focus will be on rural regions. While EE had previously indicated it was aiming for a 'summer' launch of VoLTE, a concrete date has yet to be confirmed for the technology's introduction, with Mr. Bennett noting: 'We will make VoLTE available to our customers when

the reliability of the service is as good as our current voice service. We're currently maintaining a dropped call rate of 0.4% and CS fall back is performing very well – we'll only launch a new voice service when it's on a par with, or better than, what customers are currently using.'

(September 9, 2015) [telegeography.com](#)

United States



Sprint will not participate in the US incentive auction of 600MHz, scheduled for early 2016, claiming it already has enough spectrum, plus the means to make its existing supply run more efficiently. The operator is in the midst of a turnaround inspired by CEO Marcelo Claude. "Sprint's focus and overarching imperative must be on improving its network and market position in the immediate term so we can remain a powerful force in fostering competition, consumer benefits and innovation in the wireless broadband world," he stated. Instead of splashing out on what is likely to be a billion-dollar contest, the operator will concentrate on improving coverage and capacity by densifying its network and increasing cell sites. Sprint pointed to new technologies, including carrier aggregation that will squeeze more usage out of its 2.5GHz holdings. It claims its strategy is already bearing fruit, based on RootMetrics' surveys. The operator also stated its support for reform of so-called special access, the last-mile fixed connections that are overwhelmingly controlled by AT&T and Verizon. Sprint and others are unhappy about the pricing, terms and conditions associated with these connections. FCC chief Tom Wheeler has been looking to drum up interest in next year's incentive auction for some time. So far, AT&T has shown the most enthusiasm, while T-Mobile US and Dish have also said they would take part in the contest. Wheeler recently suggested that 600MHz would be key to future deployment of 5G. The auction is unusual in that the regulator is buying back spectrum from TV broadcasters, and then selling it to the mobile industry. The National Association of Broadcasters (NAB) mounted a legal challenge to the auction but lost the case. (September 15, 2015) [mobileworldlive.com](#)

The smart city era is just beginning. After years of communities experimenting individually with new smart city technologies, the White House has declared it will invest more than \$160 million in an effort to turn those experiments -- and new ones -- into joint initiatives and projects with the potential to benefit the entire country. In an announcement at the White House Smart Cities Forum, held in conjunction with Smart Cities Week, the Obama Administration outlined how it plans to allocate funds for smart city research. The dollars break down into two categories, with more than \$45 million in grants and investments going towards building a research infrastructure for smart city development and about \$115 million in proposed spending and investments dedicated to creating specific new solutions in the areas of "safety, energy, climate preparedness, transportation, healthcare and more." While the largest chunk of money in the White House effort will come from individual federal agencies like the Department of Homeland Security and the Department of Energy for topical research and development, more than \$35 million will come in grants from the National Science Foundation (NSF) to support smart city programs and, in many cases, collaborative efforts to weave those programs together. Gigabit Cities will play a large role in the newly funded smart-city research. The NSF is committing \$11.5 million to US Ignite and the Mozilla Foundation to create "Living Labs" in several gigabit communities that are

using high-speed broadband to develop and scale smart city application prototypes. The goal is ultimately to create a “smart city app store” with interoperable gigabit applications contributed by multiple communities and offering smart city solutions. The rollout of gigabit broadband access networks is spreading. The idea of connecting individual community efforts is important for several reasons. First, changes in political leadership can disrupt smart city projects. But if the scale of an initiative extends beyond a single community, than it’s more likely to survive and flourish. (See Smart Cities Need Long-Term Goals to Thrive.) Second, different cities have a lot that they can learn from each other -- from fundamentals like how to pool assets to support gigabit network expansion to specific application use cases, like how to integrate a gigabit network with power distribution and management. Connecting Gigabit Cities together also creates new opportunities to implement New IP strategies like the use of software-defined networking to deliver network resources where they’re needed most. Building on work that’s already been done by Internet 2, along with state and regional networks, communities will be able to experiment with prioritizing network resources for throughput, latency and more in the long-haul pipes connecting individual cities, depending on what an application needs. “Building a critical mass of communities with next-generation Internet capabilities will have ripple effects: if networks are fast, reliable and widely available, companies produce more capable applications to run on those networks, which in turn brings new users online and increases use among those who already subscribe to broadband services,” said US Ignite Principal Investigator Glenn Ricart in a statement. He added that “many smart city applications are enabled by the kinds of advanced technology and civic partnerships that [the grant from NSF] will build in US Ignite Smart Gigabit Communities.” Communities participating in the new Living Labs initiative include many familiar Gigabit Cities. They are: Burlington, Vt.; Chattanooga, Tenn.; Cleveland, Ohio; Flint, Mich.; Kansas City, Kan. & Mo.; Madison, Wis.; the North Carolina Next Generation Network (NCNGN); Richardson, Texas; Utah Wasatch Front cities, including Salt Lake City and Provo, Utah; Lafayette, La.; Urbana-Champaign, Ill.; and Austin, Texas. US Ignite membership includes more than 40 communities around the country, so that list could grow in the future. The NSF has also said it is planning new investments in smart cities in 2016.

(September 15, 2015) [lightreading.com](#)

Vietnam



Vietnam’s three largest mobile operators – Viettel Telecom, MobiFone Telecommunications Corporation and VNPT-Vinaphone – are set to trial the implementation of mobile number portability (MNP) in December this year, six months later than planned, Viet Nam News reports. Despite the delay, the Ministry of Information and Communications (MIC) disclosed that the full launch of the service will take place on 1 January 2017, in line with the initial rollout schedule. At a meeting held last week, MIC Deputy Minister Pham Hong Hai highlighted that there would be no more delays in testing the MNP service. Further, the official disclosed that the ministry is planning to propose appropriate regulations to ensure the rights of both providers and subscribers and prevent switching en masse when there are promotional programs. The MIC signed a decision in September 2013 approving the introduction of MNP from the start of 2017, with the aim of improving competition and promoting the development of the

mobile market. In October 2014 however Vietnamobile and state-owned GTel Mobile (Gmobile) asked the MIC to postpone the introduction of MNP to the end of 2018. The two operators argued that they require more time to prepare for the launch of MNP as their businesses have been undergoing a restructuring.

(September 14, 2015) [telegeography.com](#)

Zimbabwe



The Postal and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ) says new regulations covering infrastructure sharing among the country’s telecoms operators will be sent to the ICT Ministry by the end of this week. It has emerged, however, that Zimbabwe’s largest cellular operator, Econet Wireless, and its Liquid Telecom subsidiary have withdrawn from the consultation process and have not signed off on the final draft of the new policy. There has been some speculation that Econet could be preparing to challenge the legislation, which will force it to open up its networks on a wholesale basis. Last year the government called on domestic operators to share their network infrastructure such as mobile phone towers in order to reduce rollout costs and allow them to cut charges for end users. Econet, which controls 80% of equipment already in place across the country, responded by saying the move would be a ‘disguised, unconstitutional form of compulsory acquisition’ of its infrastructure, since its closest rival – and the likely main beneficiary of mobile network sharing – is state-owned cellco NetOne. (September 2, 2015) [telegeography.com](#)

Javaid Akhtar Malik
Regulatory Affairs

SAMENA Telecommunications Council

“Information contained herein has been obtained from sources, which we deem reliable. SAMENA Telecommunications Council is not liable for any misinformed decisions that the reader may reach by being solely reliant on information contained herein. Expert advice should be sought.”



Emerging trends in regulatory and investment landscape in the regional markets

During the past few decades, the prevalent advancement of telecommunications changed not only technologies, networks, services and applications, but the behavior of consumer of telecommunication services globally as well as in the region. The emergence of Information-Communication Technology (ICT) has given a paradigm shift to the expectation of customers of ICT. During 1990s, the sector was characterized by state-owned national companies in monopolistic situation; however, in early part of 21st century the telecommunication landscape has witnessed beginning of a competitive environment, withdrawal of the state ownership, emergence of new service providers, transnational service providers and service providers' alliances, and the continuous rearrangement of their ownership structure, especially in SAMENA region.

The process of change is often volatile and responsive to intervention and regional circumstances impacting it. It has been thus felt that the regulators should now need to be more streamlined

and be prepared for the future. Advancements in technologies are not predictable on long term basis which are likely to reshape the sector in the coming years on continuous basis, especially with an upsurge in wireless technologies including broadband, 3G, 4G (LTE) and beyond.

The telecom issues that are currently unattended in the region have been given prime importance and are carefully being contemplated for better tomorrow. These include development and promotion of suitable policies and regulatory frameworks for new scenarios. The rapid pace of change in technology is posing a challenge to policy-makers and regulators to tackle the issues related to consumer privacy and data protection. Government entities across the region are working on legislation on cybercrimes related issues. The implementation of these statutory provisions may be a challenge to regulators; however, this challenged is being addressed by having industry level consultation and discussions before promulgating the



Sikandar Naqi
Chief Business Development
Officer
**Pakistan Telecommunication
Company Limited**

necessary regulations. The ICT is encroaching in each and every way of life providing lot of conveniences to masses, however, at the same time the looming threats of misuse of the same technology are ubiquitous. Therefore, to seek a robust regulatory framework is the prime objective of policy makers and regulators.

The intellectual property right (IPR) regulations are also very critical subject that has been emerged. The regulatory bodies are also working for the development a regulatory framework that balances the interests of suppliers and users in areas of IPRs without disadvantaging innovation. Other important aspect is the convergence of technology/platform and services. Regulatory regimes which discriminate among service providers on account of services are a big bottleneck in way of convergence. Traditionally, the licensing was carried out on services/technology basis. However, it is evident that technology has provided options that non-licensees have started infringing to the revenues of licensed operators. The regulators have already started consultation on convergence issues. The current licenses were issued for 15-20 years span, therefore the effectiveness of this consultation cannot be achieved until licensees proactively pursue the matter and show willingness to bring change in prevalent regulatory environment.

In other related areas, market forces generally guide the transition from conventional to next generation

technologies yet for the transition to be smooth & effective, the policy makers and the regulators have to intervene and establish a working environment to resolve the following issues:

- Renewed level of obligations on all licensees providing similar services using different technologies
- Future of telephony and its numbering
- Spectrum availability through digital dividend, etc, keeping in view the growth in wireless broadband services
- Removing overlap between different licensing regimes
- Resolving interconnect issues between the infrastructure providers and content service providers
- Bring OTTs (Over the top service providers) in regulatory regime.

The work in region on reforms to take care of convergence in telecommunications and broadcasting markets is already in progress. The aim of this effort is to support provision of converged services with the objective of promoting the innovation, the reduction of prices and an increase of efficiency in the provision of services. Given the state of technological developments and future trends, it would require a concerted effort from all quarters ranging from policy-makers, regulator, service providers and other stakeholders besides improvement in the socio-economic landscape of the region. The SEMENA

regions has around 25% of world's population and ICT sector has to play its part to improve the lives of each of one-fourth person living in this planet.





▼ WHOLESALE NEWS

WHOLESALE UPDATES

NTT Communications Discusses Growth and Opportunities in Latin American Wholesale Telecom Markets

NTT Communications Corporation (NTT Com), the global data and IP services arm of Fortune Global 500 telecom leader NTT (NTT), announced today that the company is sponsoring and participating in two major events for the Latin American wholesale IP industry in Bogota, Colombia: LACNIC 24 – LACNOG 2015 (September 28 to October 02) and Capacity Central America & Andean 2015 (October 13-14). Even before establishing a Point-of-Presence (PoP) in Sao Paulo in 2011, NTT Com has been actively working with regional Latin American providers of Internet services (ISPs), content (ICPs) and Internet-centric businesses offering best in class connectivity to international markets through its leading Tier-1 Global IP Network. “The Latin American market is very important to NTT Com and among our highest strategic priorities when evaluating our network growth and demand driven expansion,” said Michael Wheeler, executive vice president of the NTT Communications Global IP Network at NTT America. “Most countries in the region are making a concerted effort to expand access while simultaneously seeking to increase innovation and

technology options within the region,” Mr. Wheeler added. A major trend for the Latin American market continues to be the growth in broadband access despite uncertain economic conditions. Mr. Wheeler said in an interview with Capacity magazine that this growth is fuelled by the continued modernization of the infrastructure which in turn spurs increased demand. Not surprisingly Brazil, hosting the FIFA World Cup last year and the upcoming 2016 Summer Olympic Games, is experiencing much of this investment and growth, but Mexico, Colombia, Chile, Peru, and other countries are seeing significant industry-related growth as well. Other major trends include the growing concern for security and ability to mitigate DDoS attacks, the investment in software-enabled connectivity to support flexible and scalable networks in a fully automated SDN environment, and the transition to 100G technologies.

Price war, what is it good for? Absolutely nothing, say Myanmar cellcos

Competition in Myanmar’s nascent mobile market is threatening to drive prices to unsustainably low levels, the Myanmar Times cites Ooredoo Myanmar’s chief executive, Rene Meza, as saying. The price level of services has

been driven down to the extent that 'there will be question marks around the quality of service for consumers going forward and how much we will continue to invest in the market,' the official commented, adding 'I think we reached a certain level too quickly... We probably already crossed the line between affordability and sustainable prices.' Mr. Meza went on to say that prices in Myanmar were on par with those of more developed markets, where operators had already stabilized their investments. Clarifying the company's position, the executive explained that Ooredoo would indeed continue to invest in the market, but there would be pressure on the industry to remain sustainable, especially in light of the planned introduction of a fourth mobile operator: 'When the industry stops being sustainable then everybody loses.' Takashi Nagashima, the CEO of KDDI Summit Global Myanmar, the Japanese partner of Myanmar Post and Telecommunications (MPT), echoed Mr. Menza's comments, warning that pricing would need to be balanced carefully with investment: 'We have to expand our network coverage. However, to do so we have to invest a huge amount of money in Myanmar, and those investment will be [made using] revenue from our services.' MPT must react to the changes in the market, but the company cannot afford to get involved in a price war, Mr. Nagashima noted: 'To be honest, we don't have enough spare money to [engage in] a price war right now. We have to invest in the expansion of the network and quality improvement at this stage.' Norwegian-backed operator Telenor Myanmar, which currently offers the lowest rates in the country for basic voice and data services, has shrugged off accusations of sparking a price war after it responded to price cuts from Ooredoo by lowering its own tariffs further. The cellco's chief executive, Petter Furberg, explained that the company had built its business around a mass-market approach, and had expected revenue per customer to be low. The official went on to confirm that Telenor's intention is to position itself as the market leader on price: 'We have definitely not been leading in terms of driving a price war, but ...we are very clear – we want to be affordable. We want people to see Telenor as the most affordable operator.' According to TeleGeography's GlobalComms Database, Ooredoo Myanmar's monthly ARPU has fallen from USD7.46 in Q4 2014 to USD6.48 in Q2 2015, whilst for Telenor the rate has

been more consistent, increasing from USD5.67 to USD5.85 over the same period.

MTN Uganda slashes call rates by 45%

MTN Uganda has revealed a new tariff for calls across all networks in Uganda. According to the company, the new rate of UGX 3 per second takes effect immediately. MTN Uganda revealed that the new tariff has reduced its call rates by 45.45 percent from UGX 5.5 per second. MTN stated that existing customers will have to dial *151*2# to receive the new call rate while new



customers will receive the new rates immediately, upon activation of their SIM cards. The rate has also been reduced from UGX 300 down to UGX 180 per minute for postpaid customers. MTN further stated that it will offer 7 minutes of free on-net calls for a 7 day period, for all new customers that activate a new MTN SIM card.

Watchdog proposes 37% cut to mobile termination rate

The Belgian Institute for Post and Telecommunications (BIPT) has published its draft decision on mobile termination rates (MTRs). The regulator is proposing a 37% cut to MTRs to EUR0.0074 per minute based on the Long Run Incremental Cost (LRIC) model. The new pricing will apply to seven mobile service providers which have been found to have significant market power (SMP) in Market 2 for the termination of voice calls on individual mobile networks. These are: mobile network operators Proximus, Mobistar and BASE; MVNOs Telenet, Lycamobile and Join Experience; and VoIP operator

Voxbone. The draft proposal is open to public comment until 15 October.

Syniverse Extends LTE Roaming Reach for Dialog Axiata

Syniverse has expanded its decade long relationship with Dialog Axiata by providing the Sri Lankan operator with single connection access to the Syniverse IPX Network Solution. Through a single carrier-grade connection to Syniverse's network, Dialog's reach has been expanded across the world's LTE networks. The Syniverse IPX Network currently serves more than 1,000 LTE roaming routes and includes more than 100 LTE direct connections that make it possible for Syniverse to deploy LTE and VoLTE around the globe. Syniverse recently contributed to major industry milestones in LTE by enabling the world's first transoceanic VoLTE roaming call and supporting the world's first VoLTE roaming

service. Recent LTE achievements also include enabling LTE roaming for Saudi Telecom Company and Ooredoo Qatar. "The agreement with Dialog builds on our long relationship to make mobile work for the operator with multiple solutions, including data clearing, roaming fraud protection, text and multimedia messaging, and Wi-Fi roaming," said Sanjay Kasturia, Vice President and Managing Director, Sales, India, Syniverse. "These solutions, combined with the Syniverse IPX Network, set the foundation for Dialog to deploy advanced IP-based services in the future, including Voice over LTE and Video over LTE, as well as Rich Communication Services."

Sprint expands global roaming to 33 more countries, mostly in the Caribbean

Sprint added 33 destinations, mainly islands in the Caribbean but also France, where customers can get free texting and low rates on calls and data under its "Open World" program. Meanwhile, in other international

coverage expansion news, Verizon Wireless said it became the first U.S.-based wireless company to offer roaming in Cuba. The Sprint expansion came just after T-Mobile US (NYSE:TMUS) added 20 new countries and destinations to its "Simple Global" global roaming program, which lets T-Mobile "Simple Choice" postpaid customers access unlimited 2G data and calling at 20 cents per minute. The program now covers a total of 145 countries and destinations worldwide, including all of Europe and South America. In August Sprint unveiled its new "Open World" international roaming service that makes unlimited calling and texting to Canada, Mexico and other Latin American countries free for its U.S.-based customers. The offering also gives Sprint customers free calls and texts and 1 GB of high-speed data when they are traveling in those countries. Countries included in the offering are Mexico, Canada, Dominican Republic, Argentina, Brazil, Chile, Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama and Paraguay. Sprint also said that it will offer free texting, calling for 20 cents per minute and \$30 per GB pricing to customers who travel in more than 40 other countries. That list of countries now includes France, Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, Bermuda, Bonaire, British Virgin Islands, Cayman Islands, Curacao, Dominica, Fiji, Gibraltar, Grenada, Guadeloupe, Guyana, Haiti, Jamaica, Martinique, Montserrat, Nauru, Papua New Guinea, Seychelles, St. Barthelemy, Saint Kitts and Nevis, Saint Lucia, St. Vincent and The Grenadines, Suriname, Tonga, Trinidad and Tobago, Turks and Caicos Islands, and Vanuatu. Other destinations where Sprint customers can get the offer of free texting, calling for 20 cents per minute and \$30 per GB pricing include Australia, Denmark, Germany, Ireland, Israel, Italy, Japan, New Zealand, the Palestinian territories, Russia, South Korea, Spain, Sweden and the United Kingdom. "When our customers are vacationing in the Caribbean or traveling abroad, we know they want to be able to communicate with friends and family free from worry about surprising costs to text, make a call home or send a photo," Sprint CMO Kevin Crull said in a statement. "We are continuing to add more destinations and enabling our customers to stay connected virtually wherever they go." Verizon's offer of roaming for Cuba comes about a month after the United States and Cuba formally restored diplomatic ties. However, Verizon's

service in Cuba is significantly pricier than Sprint and T-Mobile's similar offerings for service in Caribbean nations. Verizon said customers using a global "World Device" who are traveling to Cuba can opt-in to add the "Pay-As-You-Go International Travel" option. While in Cuba, voice calls are \$2.99 per minute, data is \$2.05 per MB and standard international messaging rates apply.

Nkom plans tougher price regulation for Telenor Norway in mobile sector

Norway's telecoms regulator, the National Communications Authority (Nkom), has said it will continue to impose specific obligations on mobile market leader Telenor Norway. In a press release the watchdog noted that the operator still holds significant market power (SMP) with regards to the wholesale sector for Market 15 (access and call origination on mobile networks). Telenor Norway accounts for more than half of the nation's mobile subscribers, meaning that the operator will continue to be required to allow access to its infrastructure under specific terms. Moreover, the Nkom has also signaled its intent to impose 'tougher regulation of price terms for accesses, given what it termed 'persistent competition problems'. Arguing that operators relying on national roaming or MVNO access should be able to compete effectively in the retail market, the Nkom said it was necessary to impose an explicit requirement that the price terms for accessing the market leader's network should not mean alternative operators face a margin squeeze. Having published its proposals, the regulator is now seeking responses on the matter, setting a deadline of 19 October for submissions.

T-Mobile expands 'Simple Global' roaming program to all of Europe, South America

T-Mobile US added 20 new countries and destinations to its "Simple Global" global roaming program, which lets T-Mobile "Simple Choice" postpaid customers access unlimited 2G data and calling at 20 cents per minute. The program now covers a total of 145 countries and destinations

worldwide, including all of Europe and South America. The Simple Global program was first launched in the fall of 2013 and had 115 countries at launch. T-Mobile said the program now covers more than 90 percent of the trips Americans take abroad each year. The carrier added that the most notable addition that it is bringing into the fold today is the Bahamas, where more than 2 million Americans travel each year. Since 2013, T-Mobile said its customers have been using 140 times more data abroad, global texting has increased more than 10-fold and customers are making more



than six times as many voice calls. Under Simple Global, customers' data rates are capped at EDGE speeds of around 128 Kbps, though T-Mobile offers various levels of speed boosts to customers who want faster speeds. The company prices those speed bumps at \$15 for 100 MB per day; \$25 for 200 MB per week or \$50 for 500 MB for two weeks. Sprint sought to answer T-Mobile and in August unveiled its new "Open World" international roaming service that makes unlimited calling and texting to Canada, Mexico and other Latin American countries free for its U.S.-based customers. The offering also gives Sprint customers free calls and texts and 1 GB of high-speed data when they are traveling in those countries. Countries included in the offering are Mexico, Canada, Dominican Republic, Argentina, Brazil, Chile, Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama and Paraguay. Sprint also said that it will offer free texting, calling for 20 cents per minute and \$30 per GB pricing to customers who travel in more than 40 other countries, including Australia, Denmark, Germany, Ireland, Israel, Italy, Japan, New Zealand, the Palestinian territories, Russia, South Korea, Spain, Sweden and the United Kingdom. T-Mobile argues that its

offering will save customers money compared to similar international service offerings from Sprint, as well as Verizon Wireless and AT&T Mobility. AT&T's Cricket Wireless prepaid brand said that as of yesterday it is offering unlimited voice and SMS messaging to and from Mexico. AT&T has emphasized that it is creating a single network between its operations in the U.S. and Mexico, following its \$4.4 billion worth of purchases of Mexican wireless operators Iusacell and Nextel Mexico earlier this year. AT&T aims to deploy LTE to 40 million POPs in Mexico by year-end, but has highlighted that its calling and texting between the two countries is seamless.

Re-Invent Telecom Expands Wholesale Business VoIP Solutions Nationwide

Re-Invent Telecom, a leader in wholesale cloud based Voice/VOIP services, and a subsidiary of Scottsdale-based ILEC Saddleback Communications, has announced a



successful nationwide expansion of its wholesale VoIP Solutions. Building on this momentum, the company will exhibit at the premier cloud business event, Cloud Partners 2015. "Re-Invent is very excited to participate in the Cloud Partners show in Boston. We have had great success with new partners on the east coast and we look forward to reconnecting with them as well as meet potential new ones" says Ray Napoletano, Senior Manager, Business Development for Re-Invent Telecom. Re-Invent has invested heavily in people and infrastructure since forming in 2009 and are poised for continued growth, much of which

has been fueled by key partnerships. "Our relationship with Metaswitch Networks has been fantastic and critical to our success. Metaswitch allows us to seamlessly deploy, manage and troubleshoot our wholesale customers" adds Napoletano. Chris Carabello, Senior Director of Product Marketing for Metaswitch Networks, the world's leading network software provider offers "We are pleased that network operators like Re-Invent Telecom are leveraging Metaswitch to effectively meet the growing demand for innovative Business Communications services."

Sri Lankan Operator Dialog Connects to Syniverse IPX Network for LTE Roaming

Syniverse has been selected by Sri Lankan operator Dialog Axiata to provide carrier-grade connection to its IPX Network Solution, enabling the operator to expand its LTE roaming service. Besides the standard data mobile roaming and clearing, the direct connection will enable the operator to deploy advanced IP-based services in the future, including Voice-over-LTE (VoLTE) and Video-over-LTE (ViLTE), as well as Rich Communication Services. Dialog become the first South East Asian country to launch mobile 4G LTE service in 2013 and has recently started conducting a pilot on the LTE-Advanced service. Syniverse said that its IPX Network currently serves more than 1,000 LTE roaming routes and includes more than 100 LTE direct connections that make it possible for Syniverse to deploy LTE and VoLTE around the globe. In addition, Syniverse has recently made possible the world's first transoceanic VoLTE roaming call, supporting the world's first VoLTE roaming service.

Telenor agrees LTE Roaming Exchange deal with Ooredoo Oman

Telenor signed an LTE Roaming Exchange agreement with Ooredoo Oman that it said will deliver industry-leading 4G roaming and customer experience to the Middle East-based operator's subscribers. The roaming deal provides Ooredoo Oman's 2 million customers with access to 270

global 4G networks covered by Telenor direct peering agreements. The Ooredoo Oman agreement will use the Norway-headquartered operator's Diameter Routing Agent (DRA) to provide 4G voice and data roaming services, the operator said. Telenor's international wholesale operating business Global Wholesale will fulfill the roaming exchange agreement. Bjørn Iversen, CMO of Global Wholesale, said the agreement offers benefits to the subscribers of Telenor's direct peering partners in addition to Ooredoo Oman's customers, including improved call quality. Iversen explained that the roaming exchange deal also offers direct 4G access to 13 of Telenor's own global 4G networks. Ooredoo Oman chief legal, regulatory and wholesale officer, Jim Maxell, said the operator has a "long-standing and important relationship with Telenor, and we are very satisfied with their ability to understand our needs and complex challenges in deploying LTE roaming." Maxell added that Telenor "has been a pioneer with LTE Roaming, both globally and in many local markets," and said that Telenor's "extensive global 4G coverage is of significant importance" by enabling "quality roaming in both our networks." The Ooredoo Oman deal extends Telenor Global Wholesale's reach into the Middle East market and follows a similar deal with Telekom Austria that was signed in May and opened the door to markets in Central and Eastern Europe, the Nordic region and Asia. Telenor and Ooredoo are also credited with boosting mobile penetration in Myanmar, where the pair operate competing 3G mobile networks. In May, Telenor Myanmar CEO Petter Borre Furberg said the entry of both companies had contributed to an increase in penetration from around 10 per cent prior to their launch, to around 42 per cent by the end of the first quarter of 2015.



The role of telecom operators in building digital ecosystems

Although most of the developed world today is enjoying the digitization revolution, its potential is only partially realized in the Middle East and North Africa (MENA), where Internet penetration is 39% (compared with 85% in North America). In Sub-Saharan Africa the penetration rate is 16%. Bringing these substantial numbers of unconnected online represents a significant revenue opportunity for telecom operators, worth an additional \$400 billion globally from 2015 to 2020.

One of the main barriers to bringing people online, beyond the well-known issues surrounding connectivity and affordability, is the availability of local, relevant content. In the broader Middle East and Africa region, only 25% of the population has enough relevant content to consider going online.

A key question across emerging markets is the divergence in the maturity of local content ecosystems, irrespective of the level of development of the Internet user base. In our analysis of the stages of evolution of digital ecosystems in 75 markets, three key themes emerged:

- **Digital content ecosystem have four distinct stages of evolution:** The first stage involves building a content foundation. The second stage is when the number of users reaches critical mass as the “network effect” is leveraged; content and services become more valuable as more people use them. The third stage is when there are enough users so that content developers can monetize their offerings. The fourth stage is when the user base continues to expand as content becomes more diversified and sustainable.
- **Monetization models play a key role in ecosystem development:** Most emerging markets have a structural economic challenge in monetizing and sustaining digital ecosystems. Emerging markets have found it very difficult to develop deep digital content ecosystems, unlike developed markets where content developers were able to rely on either subscriber propensity to pay (e.g. e-commerce) or rely on advertising dollars (e.g. social networking) to develop content



Milind Singh
Principal
Strategy& (formerly Booz & Company)

platforms. Beyond these two sources of monetization, risk-taking by patient investors led to creation of large digital platforms, which have ultimately been monetized as a part of a shareholder exit (e.g. messaging platforms). By contrast, in emerging markets the limited propensity of subscribers to pay for content, still small advertising markets, and a lack of patient investors are creating challenges to both start-up and scale-up companies.

- **Non-global network content categories are the weakest in emerging markets:** Content does not develop uniformly across the six most content categories in digital ecosystems—business services, communications,

While these challenges are significant, a concerted effort by stakeholders, and telecom operators in particular, can catalyze the development of digital ecosystems. Operators can encourage more people to discover the Internet and to adopt digital services by promoting new content developers, either through investments or by promoting local content providers in their marketing campaigns. They can also better articulate the benefits of connectivity and content together by using the content-bundling approaches that have succeeded in some markets. This is important because many of those who are unconnected or barely use the Internet are discouraged from doing so by the cost involved with first buying connectivity and then deciding if there is relevant content to consumer. Finally, operators can fill the



entertainment, information, sharing platforms, and utilities (including government services). Certain categories, such as sharing platforms and communication platforms, which can be of global scale, are well developed and built across most emerging markets and languages. However, the utility and information content categories, for example education, health and local news, tend to be less well developed. Indeed, the gap in content availability between developed and emerging markets is at its widest in the utility category.

role of the patient investor in some of these content categories.



TECHNOLOGY NEWS

TECHNOLOGY UPDATES

Ericsson Launches 5G for Europe Program

Ericsson is expanding its cross industry 5G research and development (R&D) program to a range of European markets. The 5G for Europe program will bring together major industrial players, the public sector and leading universities across Europe. The program will initiate cross-industry research collaborations focused on the integration of ICT in industry processes, products and services, and which leverage Europe's position as the region with the world's second largest R&D spend. The program will also create innovation projects that enable smaller companies to cooperate with a wide range of industry players, to interact with academia, and to secure early and affordable technology access. 5G for Europe will also deliver industry pilots of possible 5G solutions in areas including transport and automotive, the Internet of Things, utilities, public safety, public infrastructure and retail. Ulf Ewaldsson, Senior Vice President and Chief Technology Officer, Ericsson, says: "5G is the next step in the evolution of mobile communication and will be a fundamental enabler of the Networked Society. However, Ericsson needs to work together with industries to understand their specific network requirements in order to realize the full benefits of 5G technologies. "By expanding our 5G program to include major partners across Europe, we will gain valuable insights that will enable industries to digitalize effectively, to create new value and to

strengthen the competitive position of European industry," he says. The program's academic and research partners include major technical universities such as Scuola Superiore Sant'Anna, Pisa, Italy, Technische Universität Dresden, Germany, Universidad Carlos III of Madrid, Spain, IMDEA Networks Institute, Madrid, Spain, and King's College, London, United Kingdom. Among the industry partners are leading enterprises such as wiseSense, Weiss Robotics and MyOmega System Technology in Germany and Zucchetti Centro Sistemi in Italy. In March 2015, Ericsson launched the 5G for Sweden R&D program, together with partners in Swedish industry and academia. 5G for Europe broadens this initiative to seven countries and 10 institutions, with further partners to be included over time.

The EU and China signed a key partnership on 5G, our tomorrow's communication networks

Both parties are committed to reciprocity and openness in terms of access to 5G networks research funding, market access as well as in membership of Chinese and EU 5G associations. The EU and China have signed a milestone agreement in the global race to develop 5G networks, during today's EU-China High Level Economic and Trade Dialogue in Beijing. In the future, everybody and everything will use 5G, the next generation of

communication networks. By 2020 there will be more than 30 times as much mobile Internet traffic as there was in 2010. 5G won't just be faster, it will also be the backbone of our digital future and the foundation of a trillion euro EU market in the Internet of Things, i.e. new functionalities and applications ranging from connected cars to smart homes. The joint declaration was signed by Günther Oettinger, European Commissioner in charge of the Digital Economy and Society, and Miao Wei, Chinese Minister of Industry and Information Technology. Commissioner Günther Oettinger said: "5G will be the backbone of our digital economies and societies worldwide. This is why we strongly support and seek a global consensus and cooperation on 5G. With today's signature with China, the EU has now teamed up with the most important Asian partners in a global race to make 5G a reality by 2020. It's a crucial step in making 5G a success."

Under this Declaration, the EU and China will strengthen cooperation to:

- reach a global understanding, by the end of 2015, on the concept, basic functionalities, key technologies and time plan for 5G
- explore possibilities in cooperating and implementing joint research actions in the area of 5G and to facilitate bilateral participation of enterprises in 5G research projects in China and the EU
- jointly promote global standardisation for 5G, in support of ongoing standardisation work in relevant organisations such as the 3rd Generation Partnership Project (3GPP) and the International Telecommunication Union (ITU)
- cooperate in facilitating the identification of the most promising radio frequency bands to meet the new spectrum requirements for 5G
- explore jointly the possibilities for cooperative research on the services and applications for 5G, especially in the area of the Internet of Things (IoT).

Both parties are committed to reciprocity and openness in terms of access to 5G networks research funding, market access as well as in membership of Chinese and EU 5G associations. This joint declaration builds on similar agreements with South Korea and Japan signed with the Commission in recent months. The European Commission is investing €700 million through the Horizon 2020

Programme to support research and innovation in 5G. Through its Digital Single Market Strategy announced in May, the Commission is committed to improving spectrum coordination in the EU, particularly in view of future 5G needs.

Background

In December 2013, the European Commission launched a Public-Private Partnership on 5G (press release - Factsheet). The EU is investing €700 million by 2020 in this partnership through the Horizon 2020 research and innovation programme. EU industry is set to match this investment by up to 5 times, to more than €3 billion euros. China's IMT-2020 (5G) promotion group was jointly established by the Ministry of Industry and Information Technology (MIIT), the National Development and Reform Commission (NDRC) and the Ministry of Science and Technology (MOST) in February 2013 to promote 5G technology research in China and to facilitate international communication and cooperation. The members include the main operators, vendors, universities and research institutes in China. The industrial agreement between the 5G PPP Association of Europe and the IMT-2020 (5G) Promotion Association ready to be signed after the signing of the Joint Declaration is as well crucial for the success of the 5G cooperation. At the 2015 Mobile World Congress (MWC), the European Commission and Europe's tech industry presented the EU's vision of 5G technologies and infrastructure. This ambitious strategy gives the EU a strong voice in the next phase of 5G discussions at the global level that should lead to international agreements, including on standards. (see also the speech of Commissioner Oettinger at the event) Commissioner Oettinger will host a global workshop on 5G standards and spectrum with representatives from the US, South Korea, Japan and China during the ICT-2015 conference in Lisbon on 20 October 2015. Through its Digital Single Market Strategy, the Commission is committed to improving spectrum coordination in the EU, particularly in view of future 5G needs. The Commission has just launched a review of the EU's telecoms framework and present legislative proposals for an ambitious overhaul of EU telecoms rules in 2016. This includes more effective spectrum coordination, and common EU-wide criteria for spectrum assignment at national level.

BlackBerry announces plans for Android Smartphone

BlackBerry will be launching Priv, a flagship slider device which will run on Android, later in the calendar year. The device will combine BlackBerry security and Android for Work on the BES12 platform. More details will be forthcoming closer to launch. BlackBerry noted that while Priv will provide a choice of OS to new and existing customers, the company remains committed to the BlackBerry 10 OS, which it will continue to develop and enhance. Version 10.3.3 will be introduced in March. The company made the announcement after releasing its fiscal second quarter results, and saying it completed its acquisition of AtHoc at the end of September and signed a new agreement to acquire Good Technology for USD 425 million in cash. The company said the deal with Good will strengthen its leadership in Enterprise Mobility Management (EMM) value added services. The transaction is expected to close towards the end of the company's 2016 fiscal third quarter, subject to customary closing conditions and regulatory approvals. In the second quarter to 29 August, BlackBerry raised its net profit figure to USD 51 million from a loss the year earlier of 184 million. Revenues however fell to USD 490 million from 916 million the year before, with all regions contributing to the decline. Revenues slid to USD 176 million from 297 million in North America, fell to USD 202 million from 368 million in EMEA, went down to USD 33 million from 111 million in Latin America and weakened to USD 79 million from 140 million in Asia Pacific. BlackBerry said it recognized hardware revenue on over 800,000 smartphones with an ASP of around USD 240 while non-GAAP software and services revenue advanced 19 percent from the year before to USD 74 million, driven by a 33 percent growth in software licensing revenue. Adjusted EBITDA went to USD 68 million. Total cash, cash equivalents and short and long term investments amounted to USD 3.35 billion, up by USD 37 million sequentially. CEO John Chen expressed his confidence in the company's strategy and continued progress and said the company would continue to invest strategically, organically through new products and

services based on the BES platform, and through acquisitions like AtHoc and Good. For its fiscal third quarter, BlackBerry expects modest sequential revenue growth and a positive free cash flow. The company is targeting a "sustainable" non-GAAP profitability for its fiscal fourth quarter.

Ericsson and Alcatel-Lucent to show Broadband World Forum how virtualization is done

Kit vendors Ericsson and Alcatel-Lucent are to use Broadband World Forum in London's Excel Centre to demonstrate the practicalities of SDN and virtualized functions. Ericsson will exemplify, in a series of demonstrations and interactive exercises, how the virtualization of end-to-end network infrastructure will create the right foundation for Wi-Fi Calling. Meanwhile, at the same show, Alcatel-Lucent will set out to demystify concepts like Universal TWDM (time and wavelength division multiplexing), G.fast, Vplus, Gigabit home systems and end-to-end services. Their joint mission is to bring the abstracts behind NFV to life for an audience of both technical and commercial buyers. As virtualized networks become a commercial reality, it will become increasingly important to popularise the concept, according to Ben Agnew, the director of the Broadband World Forum: "The Proof of Concept zone will be bigger than ever before," said Agnew. Though the virtualization of telecoms is inevitable, work needs to be done to make it easier to respond to the demands of interoperability, the technical challenges operators face and the dynamic needs of traffic and services, according to Agnew. As cloud computing and telecoms merge, the event will set out to show the more technically minded the practicalities of getting the most out of NFV, while commercial staff will benefit from a roadmap for mainstream adoption, according to Håkan Djuphammar, head of technology at Ericsson's Business Unit for Cloud & IP. The goal is to accelerate the use of real, deployable virtualization systems, he argues. "The Ericsson demo shows how NFV opens up new deployment options, since NFV adds scalability and geographical distribution of

functionality," said Djuphammar. In September Ericsson and mobile telco Entel Chile demonstrated Latin America's first data transmission over combined 2600 MHz and 700 MHz spectrum bands in a commercial network. The trial proved that over-the-air LTE-Advanced Carrier Aggregation can run at 250Mbps. "Mobile broadband is opening up a world of opportunities," said Nicolas Brancoli, VP of Ericsson Latin America. Ericsson claims forty per cent of the world's mobile traffic now runs over Ericsson equipment.

Orange to install Low Power Wide Area network for IoT in France

Orange is the latest telco to target the Internet of Things (IoT) after announcing plans to install a new Low Power Wide Area network, running on long range technology, across metropolitan France. Orange is looking to bring in 600 million Euros in revenue by 2018 from the Internet of Things (IoT) in line with its Essentials 2020 strategy. The development will foster connectivity among sensors in smart cities and will be initiated in the first quarter of 2016 progressively across France. Orange Chief Executive Officer, Stéphane Richard, said, "By 2020, we believe that there will be more than 25 billion objects connected in the world. Beyond connectivity, Orange is also involved in the distribution of connected objects, in the aggregation and data processing stemming from these objects as well as proposing value-added services in the field of health and well-being, the connected home and smart cities." In order to cater to meet the requirements of varying objects and technology, Orange is planning to invest in a line of solutions to build its IoT capability. Connection requirements for objects hinge upon speeds, criticality and frequency of the information communicated. The company will also provide its mass market and business customers with services and platforms that are compatible and interoperable with these varying networks. Orange has been trialing a network based on LoRa technology in Grenoble, in collaboration with over 30 businesses. The experimentation was utilized to test the main use of the networks that include frequent location of objects, controlling objects and collection

of information from sensors among other uses. The company has also gained feedback in order to boost service quality.

Ericsson launches multi-device WiFi calling

Ericsson has bolstered their existing WiFi calling solution with new multi-device functionality in response to an increasing appetite from operators and consumers. The enhanced service will allow customers to switch between their WiFi-enabled mobile devices whilst retaining a full voice service. The new solution will offer better value to consumers, whilst opening new business opportunities to operators. According to a recent Ericsson ConsumerLab report, 61 percent of the respondents claim they now make more frequent and longer voice calls and half say they have replaced some over-the-top app communication with voice calls utilizing WiFi calling. Many operators around the globe offer different levels of WiFi calling services – including Vodafone who launched their service this week – but not all will allow for the use of multiple devices regardless of whether the customer is on WiFi or cellular. As such, multi-device WiFi calling remains a ripe opportunity for an operator to differentiate. Smartphone and tablet maker, Apple, debuted native WiFi calling across multiple devices as part of their iOS 8 operating system – although it's listed as "T-Mobile only" in the US. Customers will be hoping that more operators adopt multi-device WiFi calling solutions like Ericsson's to benefit from the increased seamlessness and coverage it provides whilst in areas of poor cellular signal. Anders Olin, Head of Product Area Network Functions at Ericsson, says: "While natively-integrated WiFi calling in smartphones has been commercially available for some time, both consumers and operators can benefit from extending this functionality to multiple devices. We are excited to launch WiFi calling for multi-device, which is a clear example of how Ericsson's technology leadership is helping to create differentiated user experiences." Ericsson's latest offering comprises of; Product support in Evolved Packet Core (EPC), IP Multimedia Subsystem (IMS), User Data Management (UDM) and OSS/BSS, as well as integration services. The WiFi calling solution also

caters for call management scenarios by the customer including support for simultaneous calls on various devices, and transfer of existing calls to another device.

Issues faced with Small Cell & CRAN deployments – and how to overcome them

Many people believe you can just go and install a small cell or a RRH (Remote Radio Head) on a pole and you're done. Well, there is a lot more to it. The real deployment problems begin when you are selecting your sites. Here are some of the most common issues:

Selecting Mounting Assets

If you are new to deployment then maybe you believe you can mount the smaller units anywhere. However, you need to go through several hurdles before you deploy. First, you need to find out who owns or manages the asset. This is where you might work with a tower company that has small cell assets because they have places for you to go. All you need to do is make sure the location fits the RF design. Ownership is a real issue because there are so many assets; identifying the pole owner could be problematic. In a city, the pole could be owned by the city or a utility, or it could be managed by someone else. You then need to make sure that the structure will hold your radio, antenna, and mounting gear. You might also need to install a cabinet at the base and the antenna near the top. The owner could also require you to have a structural analysis done on the pole. You don't want the pole blowing over in a storm, right? Your mounting asset could be the pole, but let's say you want to go on a building. On some occasions the building roof might not be the best solution, so what can you do? You could mount on the side of the building, or even in an office facing out of a window (assuming it's not lead-lined.) Get creative when you have to, otherwise try to keep it simple. When mounting in an odd location in the building you might have to work a lease with someone else; like the tenant of that office. I know that when mounting low and on the side of a building it's possible you will have to get permission from another management company, and not the group which manages the roof.

You could do a strand mount, but then you need to verify the strength of the strand. Strand is straight forward because it's just a piece of steel cable. Once the tinsel strength is verified, look at the connection to the pole and make sure it's secure enough to hold the additional weight that is being added. Don't forget about permitting and zoning. This is going to determine how and where you mount; with the municipalities blessing. Remember they have the power to fine you or make you rip it out. If you think you can just slap-up the equipment on a pole without getting the proper permits, guess again. You need to be sure zoning will allow your unit and antenna to be there. Follow the permitting rules for installation! Know the local ordinances prior to installation, as it will save you a lot of headaches. This is why site acquisition teams earn their money. So now you're ready to mount the radio and the antenna, but wait, there's more! You need to consider all of the following prior to mounting anything...

Backhaul Solutions

This is another issue when selecting a site. Even though you have the poles or buildings selected, you need to be sure there is a backhaul solution at the site. If you decide to go wireless, then make sure you have a good link to the nearest fiber location. This is critical for you to make sure you have the backhaul connection you need. This could also apply to fronthaul if you are deploying CRAN. If you are deploying CRAN, the BBU (baseband unit) will need to connect to the backhaul and the fronthaul as the CRNA RRH will need to connect to the fronthaul. What is the solution? Well you could use a combination of wireless and fiber, and maybe even copper. This should all be planned out before the installation, but a survey of the site could reveal an issue that you were not aware of when looking at the site design. I believe that surveys are invaluable because they identify all the issues that didn't show up on paper. You may think your wireless link has line-of-site to a building, or that fiber is on your side of the street, just to find out that neither is true. Don't be afraid to get creative on backhaul and fronthaul designs. It might be a good idea to use a mix of fiber and wireless to connect. Look at the system on a map and see if there is a method of connecting back to a macro site, then all of the rest will be taken care of. Offer solutions to your customers that will allow them to

deploy in a cost-effective manner.

Fiber Accessibility

Most times the backhaul will have a fiber connection somewhere. You might have one at each location, or you might choose to connect wirelessly back to a common point which will need fiber. In this case, you will need to make sure that a fiber connection is available where you're installing. If you need dark fiber, then you need to be careful where you locate the site. Some carriers prefer dark fiber for the backhaul and many need dark fiber fronthaul. Running fiber can be expensive if you have to trench, pull permits, hire traffic control, and perform construction. The key is to be cost-effective and mount close to a fiber ring or send wireless back to a building where you should have easy access to fiber.

Power

Many people think that if a light pole has a light on it, then it would have power available. Well, when I deployed street WiFi I learned that nothing could be farther from the truth. A lot of pole lights run on a higher voltage like 220 or 300VAC+ which belongs to the owner of the lights. If they don't want to power your small cell or RRH, then you need to get your own power. You need to know what is available, but you will probably end up running your own power as even utility poles don't have power accessible. If they have power on the pole, it doesn't mean that you can tap it and bring power to your radio. The first thing to look at is how to get power there as it could be from a greater distance than anticipated, and it might not be cheap. Even in a building there could be an issue running power where it is needed. There might be core drilling involved, there could be additional permitting needed, and it could be against the landlord's policy to have power run to your location. Once again, this issue should be worked out prior to installation.

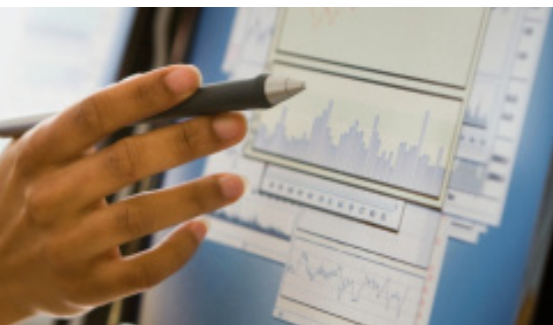
Cost to Deploy

There was a time when the equipment was the limiting factor when calculating costs. Now it is the services, backhaul, and lease pricing. Hardware got cheaper, but services add up. The costs might not be known until the research is done; which is something that will take planning and experience. When the early adopters of small cells and CRAN started their deployments, this is something found

at their expense. Experience is the best teacher, and the others just sat back to see what they did. In the US, Verizon Wireless deployed and ran trials to see where they could become more efficient. Verizon had to weigh out the time-to-market versus the cost effectiveness of backhaul like running wireless versus fiber. Leasing prices also need to be considered, as some leases include power and backhaul whilst others don't. They worked with site acquisition teams to find a process that would allow them to save on leasing and design work up front. All of this began to drive the costs down for the other carriers to deploy. Live and learn, but it's nice when someone else foots the bill for learning! This should prepare you for some of the problems you might encounter. Until you start the deployment, you don't know all the problems. When you think you have seen it all then you run into something new. There is always a challenge, so make sure to exercise risk management and proceed with caution. What should you do? Plan, plan, and plan even more. I don't want to stifle the actual deployment, but if you have a good plan and remain flexible then you should be set. It pays to stop and look around when picking the sites, and it pays to weigh-up your options on the backhaul. Be open and be flexible, then do the installation and enjoy a successful deployment!

Altair to collaborate with Verizon on LTE-based IoT products

LTE chipset provider Altair Semiconductor is collaborating with Verizon Wireless on the commercialization of LTE-based Internet of Things (IoT) products, with Altair preparing to roll out Cat-1/0 commercial products soon.



Smart meters, car telematics, security systems and smart home devices among other gadgets can make use of

the Altair FourGee-1160 Cat-1 chipset. Altair will showcase the provision of an LTE connection with a battery life that lasts for a decade by putting on display LTE's Release 12 PSM functionality at the CTIA conference in Las Vegas, Nevada, US. The potential of Altair's PSM-capable chipsets will be demonstrated at Ericsson's Super Mobility Week Booth #4322 at the conference. As defined by 3GPP Release 12, PSM allows terminals to hibernate for extended periods of time after informing the base station. As a result, devices benefit from lower power consumption. PSM is extremely useful where the relay of small messages to the network by devices is intermittent. Altair co-founder and VP marketing and business development Eran Eshed, said, "Our collaboration with Verizon Wireless demonstrates to us that North America's largest communication service provider sees the value of our LTE Cat-1/0 chipsets for IoT applications." Verizon Wireless vice president Ro McNally said, "Altair's low-cost, long battery life LTE Cat-1 solution, being demonstrated at the Ericsson booth, is a great example of the innovation happening in this space."

Ericsson, Sony Mobile and SK Telecom Trial IoT Wearables over LTE

The Internet of Things, or IoT, is driving new use cases for wearables, including lifestyle and wellness apps, requiring more diverse device support on mobile networks. With cellular networks already covering 90 percent of the world's population, consumers expect their wearables to benefit from the same ubiquitous connectivity as their feature phones and smartphones. To address growing consumer demand and the proliferation of such new IoT applications, Ericsson, Sony Mobile and SK Telecom are testing and trialing new device and network innovations to support secure and ubiquitous LTE network connectivity for new lower cost, lower power IoT devices. Park Jin-hyo, Senior Vice President and Head of Network R&D Center, SK Telecom, says: "We are working with Ericsson and Sony Mobile to trial both mobile network technologies and new IoT devices that improve our customer's lives, at home and work. These latest tests and trials reflect our commitment to establish a stronger IoT ecosystem globally." Ericsson, Sony Mobile and

SK Telecom conducted lab testing of the key functionalities of LTE device Category 0 and Category M (Machine Type Communication) in Ericsson radio labs in Kista, Sweden at the early of September. Field trials are planned in SK Telecom's network in Korea later this year. LTE Cat-0 has been standardized in 3GPP LTE Release 12 and is the first device category specifically targeting reduced complexity and thus reduced cost for IoT. LTE Category M is a key theme in LTE Release 13, representing further cost savings and improving battery lifetime. Izumi Kawanishi, EVP, Product Business Group, Sony Mobile, says: "Sony Mobile regards the push into the realm of IoT and our strategies for diving into this market are critically important. There can be little doubt that the market for network-connected devices - of every shape, size and type - will explode at breakneck pace going forwards. We believe that the trials with Ericsson and SK Telecom are important steps towards the IoT world, realizing solutions that will strengthen user experiences." Wearable devices and related applications were selected for the user scenarios being tested and trialed. The wearable device test use cases are focused on consumer lifestyle and wellness applications enabled through multiple sensors providing accelerometer, identification, pulse meter and GPS functionality. IoT wearables are miniaturized, low-cost, low-power IoT devices with specific network and device performance criteria. In testing, LTE has proven to support the ubiquitous and secure uplink and downlink connections that wearable lifestyle and wellness applications require. Arun Bansal, Senior Vice President and Head of Business Unit Radio, Ericsson, says: "We are working with our leading ecosystem partners, including SK Telecom and Sony Mobile, to accelerate the adoption of new IoT applications for both consumers and industry. The test and trials that we have undertaken, leveraging new Sony Mobile devices and the mobile network technology in our radio labs and in SK Telecom's live commercial network, focus on lifestyle and wellness applications that really benefit from the secure, ubiquitous mobile connectivity that cellular technologies support." Ericsson recently announced new Networks Software 16B features focused on accelerating IoT adoption by leveraging the extensive footprint, high reliability, security and broad eco-system support of LTE and GSM networks to provide a platform for

IoT growth. Features include support for lower cost IoT devices, extending device battery life to more than 10 years and improving coverage for both indoor and remote IoT applications

Intel, Ericsson, Nokia Work on Next-gen Wireless Connectivity for IoT

Intel has announced its support for Narrow Band Long Term Evolution (NB-LTE) technology as the ideal wireless connectivity solution for the growing Internet of Things (IoT) market segment. NB-LTE is an optimized variant of the widely deployed 4G LTE technology, and is well-suited for the IoT market segment because



of its low implementation cost, ease of use and power efficiency. Intel plans to work closely with Ericsson and Nokia to develop and bring to market the products needed for the commercialization of NB-LTE timed with market demand. Intel intends to support commercial roll-out of the technology with a roadmap for NB-LTE chipsets and product upgrades beginning in 2016 that will enable slim form factors. The products will add to Intel's growing LTE portfolio. Nokia and Ericsson will provide the required network upgrades to support an extension of existing LTE networks with NB-LTE optimized for low power Machine-to-Machine communication. "We are excited to collaborate with two leading network vendors Ericsson and Nokia on the next wave of wireless innovation to connect the growing IoT market segment, and to further grow the momentum for Intel's LTE portfolio and roadmap

with NB-LTE," said Stefan Wolff, vice president, Platform Engineering Group and general manager of the Multi-Comms Business Unit, Intel. "Cellular networks already cover 90 percent of the world's population so it makes sense to leverage this global footprint to support and drive IoT adoption through the standardization of Narrow-Band LTE. Working with Intel and Nokia, Ericsson is driving the ecosystem to accelerate IoT growth and ensuring a global foundation for a vast range of new IoT applications for consumers, industry and government," said Thomas Norén, vice president and Head of Product Management, Business Unit Radio, Ericsson. "We believe in building an ecosystem around NB-LTE to speed up the take-up of the Internet of Things. This development will bring consumers benefits, such as enhanced and improved connectivity of devices and at lower cost. This is another extension of Nokia's aim to improve people's lives through a programmable world where billions of people, things, sensors and devices are connected," said Stephan Litjens, vice president, Portfolio Strategy & Analytics, Nokia Networks.

How 5G Mobile Cloud Robotics Will Revolutionize Industry

Next generation mobile networks will have a massive impact on industry and society, and mobile cloud robotics will be a game changer in how we manage manufacturing and industrial tasks. The rollout of 5G mobile networks may still be some way off, but Ericsson researchers are already testing scenarios such as mobile cloud robotics, where the technology has the potential to revolutionize both industry and society. As 5G networks are rolled out, traditional robots programmed to carry out specific functions will be replaced by new models connected to the cloud. These new robots will have access to almost unlimited computing power, making them more flexible, more usable and more profitable to own and operate. Cloud-connected robots will operate on smart systems, reducing the need for hardware and requiring less power to operate. Developed by Ericsson R&D in cooperation with the Biorobotics Institute (part of Sant'Anna School of Advanced Studies) and Zucchetti Centro Sistemi

in Italy, the Mobile Robotics 5G Use Case has already identified several ways in which cloud-connected robots will improve performance in industry. "Mobile technologies will enable the robots to exchange considerable amounts of information with the cloud at low latency, which will allow the robot system to do its job at the desired performance level," says Roberto Sabella, Research and Innovation Manager. "The speed and extra capacity provided by 5G radio systems are essential to enable cloud robotics." In this 5G use case, the intelligence is located in the cloud and the robots can be operated remotely using a laptop or a mobile device. The intelligence in the cloud processes the requests, and controls the proper robots to accomplish the services. The robots act in real time and are subject to dynamic changes. "In terms of manufacturing, mobile robots could be used to optimize logistics, shuttling materials between workcells and to or from warehouses," Sabella explains. "The robots can move in any flexible sequence of places to take materials to the right place at the right time. The healthcare sector could enjoy similar flexibility, with the robots shuttling specimens, medicines and other medical materials between wards and labs, pharmacies and warehouses. By offloading repetitive low-level tasks to mobile robots, hospital staff can devote more of their time to patient care. In agriculture, robotic mobility allows for shuttling operations between fields, stalls and warehouses. Robots can be used in the fields for operations like monitoring, spraying, pruning and harvesting, increasing productivity and reducing costs. "The mobile robots will include only low-level control functions, sensors and actuators, with the robot and the network being linked via 5G connections," Sabella says. "The robot can also be equipped with a video camera, sending streaming video to the remote control, providing the control system with additional information that may be useful in the decision-making process." The mobile cloud robotics use cases described are just a few of the many exciting 5G opportunities being investigated by Ericsson and its research and development partners. "As we move deeper into the Networked Society, where everything that can benefit from being connected will be connected, Ericsson will continue to be at the forefront of developing, standardizing

and testing 5G technology," Sabella says.

Ericsson Software Unlocks Indoor Performance for the Mobile Era

Over the last few years a major shift in connectivity has been gaining speed we have moved away from a lap top era and into a fully mobile era, where we connect to our friends, family, and colleagues through multiple devices growing to 4.3 devices per user by 2020 and where business transactions are often made over the cellular network. The resulting influx of devices, users, and applications trying to access the network can result in poor indoor coverage and performance. And with the coming growth in the Internet of Things contributing to 26 billion connected devices in 2020, providing the right coverage to indoor spaces will become a greater challenge. To support these changes in connectivity, Ericsson (NASDAQ: ERIC), long recognized for high-performance, innovative hardware, is pushing performance further by adding capacity and functionality with software-only upgrades. Today, it announces its next major software release, Ericsson Networks Software 16A, which will feature a new suite of LTE software upgrades targeting the indoor space. Among the hundreds of new and enhanced software feature options in Network Software 16A, the new suite features advances in uplink and downlink performance - boosting network uplink speeds by up to 200 percent, downlink speeds by up to 30 percent and adding LTE Unlicensed (LTE-U), the first commercial step in Licensed Assisted Access - as well as features to support greater energy efficiency of small cells. To achieve these gains, Ericsson has been working with leading customers on lab tests and trial activities. Mike Sapien, Principal Analyst Enterprise Services, Ovum, says: "While operators have understood that they need to design mobile networks for increasing amounts of data now, Wi-Fi networks have traditionally been the solution of choice for indoor connectivity for enterprise customers. However, Wi-Fi cannot service the need for reliable and mobile voice services or text messaging, much less handle the business-critical applications

that require the app coverage, voice services, and full mobility provided by cellular. Now, as we move toward 5G, both cellular and Wi-Fi will need to work together to offer differentiated and seamless service." Increases in video and media uploads by businesses and consumers via apps like Instagram and Facebook call for better uplink speeds. Ericsson Networks Software 16A includes two uplink enhancements that will enable mobile operators to utilize 64 Quadrature Amplitude Modulation (QAM) on uplink to provide 50-percent better peak speeds of 75 Mbps. In addition, it enables uplink carrier aggregation, which can double uplink data speeds. Combined, these improvements provide peak uplink data rates up to 150 Mbps, which is a 200 percent improvement. Further enhancements focused on the indoor space boost download speeds by 30 percent using 256 QAM encoding. Earlier this year, in a live demonstration with Ericsson, Telstra achieved the world's first download peak rates of 600 Mbps using this new feature. Devices that support these advances become available this year, in line with commercial availability of the Ericsson Networks Software 16A. Networks Software 16A also includes LTE-U, to drive higher performance. LTE-U enables operators to combine the reliability of licensed spectrum with indoor data speed boosts provided by unlicensed spectrum. Arun Bansal, Senior Vice President and Head of Business Unit Radio, Ericsson, says: "To keep pace with mobile broadband demand from both consumers and industry, operators need solutions that deliver both high performance and efficiency. Ericsson's indoor software innovations deliver both. And, these new features combined with Ericsson's end-to-end solutions, flexible go-to-market and business models and proactive relationships with key device ecosystem partners, ensure that our leading operators not only keep pace, but set the pace." Ericsson Networks Software 16A builds on energy-efficiency capabilities in previous releases and now includes Cell Sleep mode. This feature enables individual carriers to automatically switch off during periods of low traffic demand, ensuring greater energy efficiency of small cells. Indoor is the new hub of mobile activity and operators will need strategic models and services to cover this huge footprint. To complement operator efforts, Ericsson is expanding its use of channel partners, such as

Anixter and working with leading real estate developers and property managers, including Skanska, helping to create new business opportunities.

Ericsson and Altair Demonstrate First Cat-1 Deep-Sleep Power save Mode for LTE

Altair Semiconductor has carried out a demonstration with Ericsson, designed to illustrate LTE's Release 12 Power Save Mode (PSM) attributes of Altair's FourGee 1160 Cat 1 0 chipset within an Ericsson populated infrastructure. "PSM is an excellent optimization tool for a variety of LTE power-conscious IoT applications," said Eran Eshed, VP of Marketing and Business Development at Altair. "We're trailblazing along with our ecosystem partners to bring these solutions to market. The FourGee-1160 is the only true Cat-1 chipset in the market today. It is now also the first to offer the PSM capability." PSM, as specified by 3GPP Release 12, enables terminals to enter a deep-sleep mode for long periods of time after notifying the base station. This reduces significantly the amount of power associated with frequent communication requests normally sent by the base station. "Long battery life is a key enabler for large-scale Internet of Things (IoT) adoption, and what's typically being asked for is battery durations of 10 years or more. PSM is effectively addressing the challenge of battery life, enabling and optimizing a multitude of IoT use cases with relatively infrequent communication requirements between end points and the network. It is a software upgrade only on the existing LTE network," said Sebastian Tolstoy, Head of Radio Marketing and Communications at Ericsson. "This demo between Ericsson and Altair will highlight the dramatic gains PSM enables, in terms of battery time for applications like alarms, smart gas/water meters and other sensors."

By subscription only: The future of traditional telecoms services?

Among the sweeping changes taking place within the telecommunications industry, the popularity of subscription based business models seems to consistently resonate as one of

the top concerns for all involved. With new players entering the field on a weekly basis, the business model of communication service providers (CSPs) will never be the same again. Despite a number of variations introduced over the years, telecommunication services have traditionally been charged on a pay per use basis. This has meant that operators have put in place sophisticated methods of metering the traffic – whether that's minutes of voice, bytes of data or some combination of these, plus the likes of location. This increasing level of sophistication is today applied to traffic in real-time, enabling very fine control of how services are consumed and charged for. The new entrants swarming to the party, on the other hand, often do not have the financial means or even motivation to deploy such sophisticated controls. Hence, as we all know, the vast majority of so-called OTT services rely on a subscription-based model for generating revenue. This often manifests itself as a two-tiered model with a free, ad-funded, basic service, and a premium offering with no ads that in many instances includes extra toppings for the consumers ready to spend money on a monthly basis. For a long time, it has been easy to dismiss freemium business models as just a quick method of bringing together a number of customers to companies that have been designed as a quick flip. But as the model matures and companies start to get to grips with what really drives their conversion rates, subscription based business models are beginning to look viable for even the traditional stronghold of metered access: telecommunication services. The consumer attraction is easy to understand. Simplicity and transparency make the monthly subscription model a crowd favorite. Certainly over the historically difficult to decipher metered plans of CSPs. And as more and more companies enter the game with variations of the subscription model, its march to glory seems unstoppable. But can it really be so simple? If you read the fine print, you will find that in addition to the sometimes rather glaring compromises on privacy, subscription contracts often contain a number of other limitations as well. Especially when the service involves utilising a limited resource such as storage space or bandwidth, where you are likely to find the usual fair use conditions

in the T&Cs. So in the end, you have to meter access anyway. And herein lies both the opportunity and the challenge. The current popularity of subscriptions makes it easy to experiment on different variations of the theme as consumers are receptive to the idea at large. However, there is a fine line between simplicity and granularity - the service providers have to walk in order to find the right model for each service. They are not all created equal. Just comparing the popular music streaming services with more communication oriented offerings reveals material differences in the way the subscriptions are structured. In the former category, the likes of Spotify, with a 25% conversion rate, and Deezer, who are possibly doing even better in converting users to premium, seem to be able to create a decent conversion rate to their premium offering, while the likes of Skype with a conversion rate of less than 10% are struggling to move customers beyond the basic free service in any significant numbers. Not to mention that many of the competing communication services, such as WhatsApp and Snapchat, do not have a premium offering at all. This difference is certainly in part to do with the products offered, but nevertheless it offers an interesting insight into the possible future of telecommunication services. And while consumer services are where the action is today, they may well prove to be merely the tip of the iceberg as far as the possibilities of subscriptions are concerned. It is in the much hyped area of the Internet of Things (IoT) where the real action is going to be.

An Even More Versatile Optical Chip

Telecommunication networks will soon reach the physical limits of current technology and in order to overcome the current bottleneck, they will have to exploit the quantum properties of light. Roberto Morandotti and his INRS team are paving the way to this technological revolution by removing the technical barriers of quantum photonics through the use of their optical chips. Recently they directly generated cross polarized (orthogonal) photon pairs on a chip, a first in quantum optics. Polarization will now be among the controllable parameters for harnessing light in a host of applications. The new device

developed at INRS will help create low cost, high performance; energy efficient technologies. Integrating optical components on chips compatible with electronic circuits is a key requirement for future telecommunication networks. Dr. Morandotti's team is quickly advancing this powerful technology. They have recently designed a stable ultrafast laser based on an integrated microring resonator. They are now working on maximizing the control of photon and light beam properties to increase the functions and applications of their innovations. As mentioned, using the polarization of light in this context to its full potential has not been possible so far. Dr. Morandotti has achieved very promising results by using the nonlinear optical effect called four-wave mixing. The experimental device devised by Dr. Morandotti's team produces photon pairs with orthogonal polarization while eliminating photons with undesirable frequencies. The wide variety of complex quantum states that can be generated by this device has the potential to offer a tremendous advantage for optical communication and applications such as signal processing and spectroscopy.

Qualcomm Agrees to Sell UK L-Band Spectrum to Vodafone and Three

Qualcomm is selling the entirety of its UK based L Band radio spectrum (1452-1492 MHz) in two separate transactions. Under a transaction between Qualcomm and Vodafone UK, Vodafone agreed to purchase 20 MHz of the spectrum. Under a separate transaction between Qualcomm and Hutchinson 3G UK Limited, Three has agreed to purchase 20 MHz of the spectrum. Harmonized and mandated for mobile broadband by the European Union in May 2015, L-Band spectrum can be used for Supplemental Downlink (SDL), helping Mobile Network Operators to meet



the global demand for increased mobile data traffic. SDL can help meet the demand for more downlink centric services, such as video on-demand, to be delivered seamlessly to mobile devices over a cellular data connection, even as data traffic levels continue to increase. It also delivers increases in downlink user experience through aggregation with licensed Frequency-Division Duplexing (FDD) spectrum. Both sales are subject to regulatory approval and other customary closing conditions. Both Qualcomm and Vodafone and H3G will shortly submit respective applications to transfer the spectrum for UK communications regulator Ofcom approval. Details of the terms of the sales are not disclosed.

Magnetic Fields Provide a New Way to Communicate Wirelessly

Electrical engineers at the University of California, San Diego demonstrated a new wireless communication technique that works by sending magnetic signals through the human body. The new technology could offer a lower power and more secure way to communicate information between

An application of this technology would be a wireless sensor network for full-body health monitoring. "In the future, people are going to be wearing more electronics, such as smart watches, fitness trackers and health monitors. All of these devices will need to communicate information with each other. Currently, these devices transmit information using Bluetooth radios, which use a lot of power to communicate. We're trying to find new ways to communicate information around the human body that use much less power," said Patrick Mercier, a professor in the Department of Electrical and Computer Engineering at UC San Diego who led the study. Mercier also serves as the co-director of the UC San Diego Center for Wearable Sensors.

Communicating magnetic signals through the human body

The new study presents a solution to some of the main barriers of other wireless communication systems: in order to reduce power consumption when transmitting and receiving information, wireless systems need to send signals that can easily travel from one side of the human body to another.

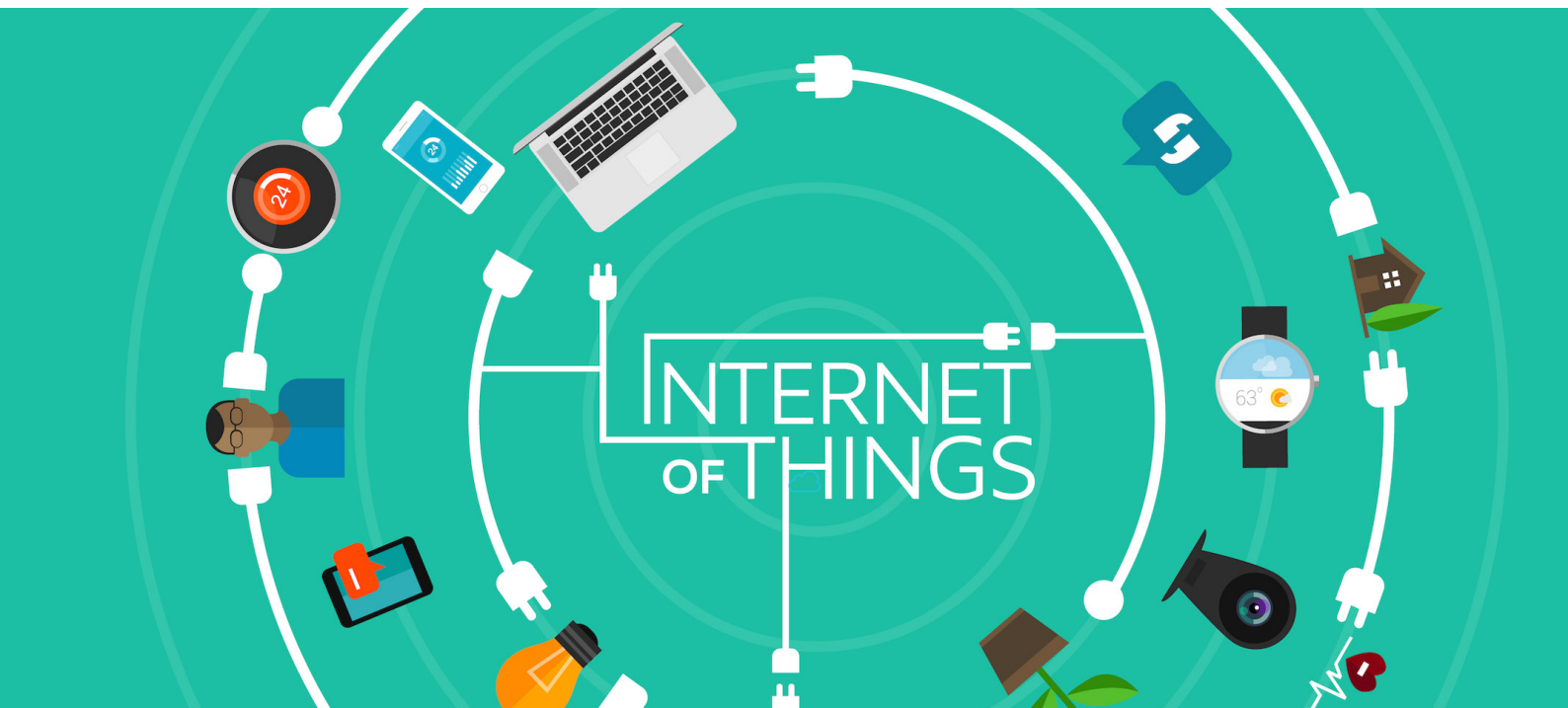
Bluetooth technology uses electromagnetic radiation to transmit data, however these radio signals do not easily pass through the human body and therefore require a power boost to help overcome this signal obstruction, or "path loss." In this study, electrical engineers demonstrated a technique called magnetic field human body communication, which uses the body as a vehicle to deliver

losses associated with magnetic field human body communication are upwards of 10 million times lower than those associated with Bluetooth radios. "This technique, to our knowledge, achieves the lowest path losses out of any wireless human body communication system that's been demonstrated so far. This technique will allow us to build much lower power wearable devices," said Mercier. Lower power consumption also leads to longer battery life. "A problem with wearable devices like smart watches is that they have short operating times because they are limited to using small batteries. With this magnetic field human body communication system, we hope to significantly reduce power consumption as well as how frequently users need to recharge their devices," said Jiwoong Park, a Ph.D student in Mercier's Energy-Efficient Microsystems Lab at the UC San Diego Jacobs School of Engineering and first author of the study. The researchers also pointed out that this technique does not pose any serious health risks. Since this technique is intended for applications in ultra low power communication systems, the transmitting power of the magnetic signals sent through the body is expected to be many times lower than that of MRI scanners and wireless implant devices. Another potential advantage of magnetic field human body communication is that it could offer more security than Bluetooth networks. Because Bluetooth radio communicates data over the air, anyone standing within 30 feet can potentially eavesdrop on that communication link



wearable electronic devices, providing an improved alternative to existing wireless communication systems, researchers said. They presented their findings August 26 at the 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society in Milan, Italy. While this work is still a proof-of-concept demonstration, researchers envision developing it into an ultra low power wireless system that can easily transmit information around the human body.

magnetic energy between electronic devices. An advantage of this system is that magnetic fields are able to pass freely through biological tissues, so signals are communicated with much lower path losses and potentially, much lower power consumption. In their experiments, researchers demonstrated that the magnetic communication link works well on the body, but they did not test the technique's power consumption. Researchers showed that the path



Recent IoT investments show telecoms operators (gradually) moving up the value chain

In mid-2014, when Analysys Mason reviewed more than 100 Internet of Things (IoT) investments and M&A deals, only 5 of these involved telecoms operators (and 4 of these were Vodafone investments). At the time, we discussed the gap between telecoms operators' stated ambition to move up the value chain and their actions (or lack of them). In 2015, however, the picture is changing. In the first half of 2015 alone, at least eight telecoms operators have made one or more investments in an IoT company (with notable activity summarised in the table below). So, what do the latest investments tell us about telecoms operators' involvement in IoT?

- Telecoms operators are cautiously exploring a different role in the value chain. Investments in SIGFOX look like defensive moves by telecoms operators trying to shore up future connectivity revenue. All other investments (and arguably even the SIGFOX deal) look like an attempt to branch out from commodity connectivity revenues.
- There is still no standard approach for telecoms operators in IoT or digital economy initiatives. The investments

made by telecoms operators are hard to classify, with no obvious common theme emerging. Investments have been made in horizontal capabilities (e.g. investments in Activity and Springworks are essentially about gaining capabilities that can be applied to multiple vertical markets). Investments by Telstra (in health), Orange (in fleet management) and before them by Vodafone and Verizon (in automotive) illustrate the diversity of opinion over what position to take in the value chain, or which verticals to focus on.

- Telecoms operators are still marginal players in IoT investment and M&A. According to some estimates, over USD10 billion has been invested in IoT companies or acquisitions in 2015 (though some of these estimates include deals in which IoT was only a small part). Telecoms operator investment in IoT over the same period was



Tom Rebbeck
Research Director – Digital
Economy
Analysys Mason

Telecoms operator investor(s)	Target	Investment details	Notes
KPN, Orange, Swisscom	Actility	USD25 million funding round ²	Actility is developing a platform of services around the LoRa low-power wide area networking technology ³
Telstra	Ocean	Acquisition by Orange ⁵	Fleet management company with over 2000 clients
Fleet management company with over 2000 clients	SIGFOX	USD115 million funding round ⁶	The telecoms operators invested alongside other industrial and pure financial investors
TeliaSonera	Spring works	Equity investment (with TeliaSonera reportedly taking a 30% stake). No pricing information provided ⁷	Springworks has developed interfaces for IoT and has an IoT data analytics platform

Figure 1: Notable M2M and IoT investments by telecoms operators in 2015 [Source: Analysys Mason, 2015]

The absence of more significant investment in IoT from telecoms operators is due to various reasons. For example:

- **Many telecoms operators lack a clear vision for their role in IoT.** As we said in a recent paper , many telecoms operators still appear to be taking a tactical and ad-hoc approach to M2M and IoT.
- **In comparison to the core business of basic voice, data and messaging, IoT and M2M are still relatively small.** Few operators earn more than 5% of their total revenue from IoT and M2M services. As a result, IoT and M2M teams may have little management attention and access to only limited resources.
- **As well as the obvious financial cost, M&A and investment activities are time consuming and can be a distraction from operators' day-to-day business.**
- **Operators have been unsuccessful at M&A in the past and want to avoid repeating their mistakes.** Although successful M&A activity between telecoms operators is relatively common, many of them have a

poor track record of purchasing or investing in non-network companies.

The extent of telecoms operators' involvement in IoT cannot be judged purely on the basis of their M&A or investment activity: other activity, such as partnerships and internal developments, also need to be considered. However, with the exception of a handful of telecoms operators, the lack of investment activity indicates an unwillingness to commit to strategies that generate more than connectivity revenues. The recent investments by telecoms operators are encouraging indications, but more are needed for operators to make significant moves along the value chain.

¹ See <http://www.analysismason.com/About-Us/News/Insight/M2M-operator-acquisitions-Jul2014/>

² See <http://www.thingpark.com/en/news/internet-things-specialist-actility-announces-25-million-funding-round-led-ginko-ventures-kpn-0>

³ See <http://lora-alliance.org/What-Is-LoRa/Technology> for more information on the LoRa Alliance and technology.

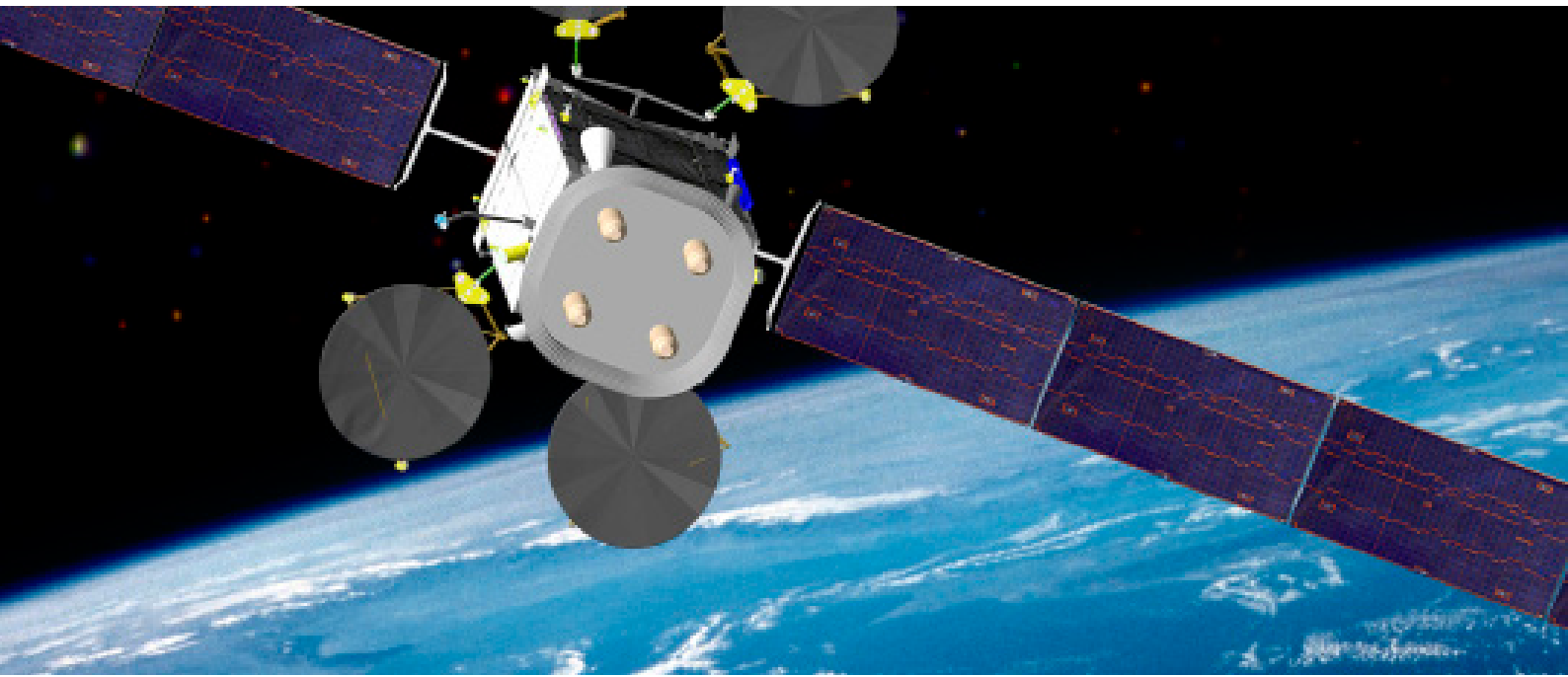
⁴ See <http://www.telstra.com.au/aboutus/media/media-releases/telstra-health-secures-operation-of-medibanks-anywhere-healthcare.xml>

⁵ See <http://www.orange.com/en/press/Press-releases/press-releases-2015/Orange-Business-Services-acquires-Ocean-to-strengthen-its-vehicle-fleet-management-activities>

⁶ See <http://www.businesswire.com/news/home/20150211005248/en/SIGFOX-Global-Leader-Internet-Connectivity-Secures-Record#.VYvZLlViko>

⁷ See <http://www.teliasonera.com/en/newsroom/news/2015/teliasonera-invests-in-renowned-swedish-iot-firm-springworks-/>

⁸ See <http://www.analysismason.com/Templates/Pages/KnowledgeCentreArticle1.aspx?id=16387>



▼ SATELLITE NEWS

SATELLITE UPDATES

Arabsat-6B and GSat-15 launch set for November

Ariane Flight VA227 will carry the Arabsat-6B and GSat-15 telecommunications satellites, and is set for a November launch date. Both payloads on Flight VA227 in November are for long-time Arianespace customers, continuing the company's relationships with Arab nations and India. Arabsat-6B is a sixth-generation satellite for Arabsat – the inter-governmental organization founded by the Arab League in 1976. The spacecraft was built in a consortium led by Airbus Defense and Space, supplier of the Eurostar E3000 platform and the satellite's integrator; along with Thales Alenia Space, which designed and built the communications payload. Weighing in at a liftoff mass estimated at 6,100 kg., Arabsat-6B will provide telecommunications and TV broadcasting services for the Middle East and Africa. Flight VA227's other payload, GSat-15, was developed by the Indian Space Research Organization and will deliver C- and Ku-band telecommunications services. GSat-15 will have a liftoff mass of approximately 3,150 kg.

Orange Business Solution Integrates Ships into the Corporate Network

Orange Business Services has released a fully industrialized product to deliver key communications functionality and connectivity required at sea. Maritime Connect allows shipping companies to integrate their fleet into the corporate network and provide Internet access for crew and applications. Maritime Connect delivers voice, VoIP, data and Internet access in one solution, independent of the communication technology used. Shipping companies, IT managers, captains and the crew can control access to data and voice services on board vessels or remotely from shore. It can be used on ships equipped with any type of satellite communications systems. The solution was developed over a year as part of a European Union initiative dedicated to improving communications on vessels at sea.

Sentech Extends Intelsat 20 Contract for DTH and DTT in Africa

Sentech, a broadcasting signal distributor in Africa, has extended its contract with Intelsat for multiple years. Sentech will continue to leverage Ku-band capacity on Intelsat 20 at 68.5 degrees east to cost-effectively expand and enhance its Direct-to-Home (DTH) and Digital Terrestrial Television (DTT) services in Africa. The Intelsat 20 satellite will provide Sentech with an expansive selection of

nearly 500 channels, 31 of which are High Definition. Sentech will maximize its efficiency as it distributes DTH as well as national DTT programming to South African viewers using a single, multiplexed transmission. "As the rest of the continent continues the migration to DTT, the power of Intelsat 20 will enable us to efficiently deliver digital services to the largest number of viewers as well as expand our customer base. Most importantly, it will enable us to enhance our channel selection and deliver more affordable, entertaining programming to viewers across multiple channels throughout South Africa," said Leago Takalani, executive: technology at Sentech.

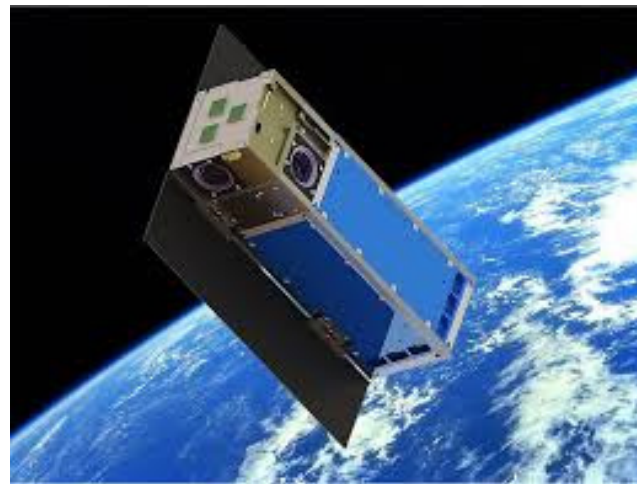
Asia's Connectivity Needs to Drive HTS Adoption

The demands of a "wired" culture, strategic military pivots toward Asia, and a rise in targeted satellite programs are catalyzing High Throughput Satellite (HTS) demand in Asia, according to a recent Northern Sky Research (NSR) study. The firm's "Global Satellite Capacity Supply & Demand, 12th Edition" report finds that though O3b Networks Medium Earth Orbit (MEO) constellation and Thaicom's Ipstar satellites are the only HTS supply alternatives over Asia right now — with both targeting distinctly different markets — the region is poised for many new entrants. Intelsat, SES, Eutelsat, ABS, and Kacific have all announced GEO missions for this decade, all for a region that has been slow to adopt HTS thus far. "Asia's need for connectivity will increase exponentially over the next decade, and satellite's role will be vital to this expansion. Applications like backhaul and enterprise data will propel growth in the future," said Blaine Curcio, senior analyst at NSR and co-author of the report. NSR expects enterprise data demand alone to grow to near 50 Gbps of Geostationary Earth Orbit (GEO) HTS capacity, on top of an additional 375 Transponder Equivalents (TPEs) of Fixed Satellite Service (FSS) capacity demand by 2024. "In Asia, an enormous demand for connectivity is emerging, with a distinct role for satellite. When all summed up, we will see nearly \$900 million in revenues by 2024. That's nearly 5 percent of all global capacity leasing revenues in 2024 — just for data and just in Asia," added Curcio. NSR also believes countries such as China and India will follow in the footsteps of Australia's

NBN Co satellites, making HTS the next "PrideSat," or patriotically motivated satellite, for Asia.

NASA Inaugurates SmallSat Technology with CYGNSS Mission

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



2016, will be the first in NASA's history to make use of a constellation of small satellites, which have taken off in the commercial sector and are often affiliated with the "NewSpace" arena, but have seen little activity in government programs. With the technology seeing rapid maturation in the last five years, federal organizations now feel secure enough to employ SmallSat technology, which may offer major benefits to certain types of government missions. "Because you can fly a lot of them, things that change quickly are amenable to CubeSat science," explained Chris Ruf, CYGNSS principal investigator at the University of Michigan, which won the NASA contract to design and build the constellation in December 2012. "Extreme weather, storms, earthquakes, flooding, [and] hurricanes are all things that are getting looked at right now for future mission architecture studies." According to Ruf, the Department of Defense (DOD) and National Oceanic Atmospheric Administration (NOAA) are also looking into how to use satellites to lower costs and increase revisit time on satellite missions.

APSCC Confident Asian Governments Will Protect C-band

Asian governments will likely stand with the satellite industry in defending a "no change" stance toward the reallocation of C-band — such is the hopeful expectation of the Asia Pacific Satellite Communications Council (APSCC), a non-profit international association of public and private satellite entities. The pressing return of the World Radiocommunication Conference this year, designated WRC-15, will bring together industry, governments and regulators to decide on spectrum issues, with conclusions regarding C-band (3.4 to 4.2 GHz) forming the crux of satellite industry concerns. WRC-15 takes place in Geneva, Switzerland this November but leaders from around the world have already held numerous regional meetings in preparation for the conference.

The Inter-American Telecommunication Commission (CITEL) recently proposed allocating a portion of C-band from 3.4 to 3.6 GHz to the International Mobile Telecommunications (IMT) industry, which says it needs more spectrum to accommodate the rapid growth of mobile services. The European Conference of Postal and Telecommunications Administrations' (CEPT) final WRC-prep meeting this year suggested 3.4 to 3.8GHz be dedicated to mobile broadband. These dispositions add weight to the belief that the satellite industry will likely have to compromise on C-band at this year's WRC, compared to 2007's conference when the industry was able to keep the band largely intact. The Asia Pacific could offer more hope, however, for defense of the spectrum. Paul Brown-Kenyon, president of APSCC and CEO of Measat, told Via Satellite that regulators in the region are largely in support of keeping C-band as is. "The recent 5th Meeting of the APT Conference Preparatory Group for WRC-15 (APG15-5) in Seoul, Korea from July 27 to August 1, concluded to a view of 'no change' on the C-band allocation for satellite

services. Although a minority of countries supported IMT allocation in the C-band, the meeting forwarded to APT members a 'Preliminary APT Common Proposal for 'No Change' in the C-band.' We are now waiting for the member administrations to endorse this Asian Common Proposal," he said. Brown-Kenyon warned, though, that the industry will need to continue to voice its concerns with APT countries to obtain a confirmed APT Common Proposal in support of no change. APSCC members are actively working to inform regulators about C-band and its importance both to the satellite industry and overall telecommunications services. Among supporters of APSCC in this mission are the Cable and Satellite Broadcasting Association of Asia (CASBAA), the Global VSAT Forum (GVF), and the European Satellite Operator's Association (ESOA). John Medeiros, chief policy officer at CASBAA, told Via Satellite that C-band is of the utmost importance in Asia. "C-band transmissions are vital — literally the arteries through which our blood flows — and there are no available substitutes," he said. Brown-Kenyon reaffirmed this point, stating that Asia has such diverse communications needs that C-band becomes arguably more important for this continent than other parts of the world. "Highlighting C-band's importance in Asia are the latest estimates indicating that half of satellite bandwidth utilized over Asia is in C-band compared to approximately 35 percent in other regions," he said. Asia, being home to more than 4 billion people, has a variety of geographies and communications needs. In many areas C-band is favored for its resilience against rain fade, compared to Ka or Ku frequencies. Euroconsult conducted a study released in June 2014 that described C-band in the Asia-Pacific as inimitable.

DT partners with Inmarsat to offer in-flight LTE in Europe

German telecoms giant Deutsche Telekom (DT) and UK-based Inmarsat have unveiled a strategic partnership designed to deliver in-flight internet connectivity to European travellers via a combined LTE-based ground network/satellite network. DT and Inmarsat are working together to develop the European Aviation Network, combining satellite connectivity from a new Inmarsat S-band satellite with an

LTE-based ground network of around 300 sites developed and run by DT. In early summer 2016 Lufthansa will offer satellite-based connectivity on board its European flights and has committed to a flight test programme for the European Aviation Network from 2017 onwards.

'This bold step will make Deutsche Telekom the first telecommunications operator to take the advantages of LTE technology to the European airspace, and fits perfectly into our strategy to become the leading European telco,' commented Tim Hoettges, CEO of DT. 'As a groundbreaking innovation we will roll out a powerful terrestrial network based on LTE within the European Aviation Network. This will be the first aviation connectivity network in Europe powered by both LTE and satellite combined. Our technology leadership provides a solid foundation for the best customer experience possible — be that on the ground or in the skies — and enables us to work with the finest partners in Europe and beyond.'

Inmarsat, Deutsche Telekom Team up on European Aviation Network

Inmarsat and Deutsche Telekom have formed a strategic partnership to develop a hybrid terrestrial-satellite In-Flight Connectivity (IFC) system called the European Aviation Network. The system will employ 300 LTE sites across



Europe combined with a new S-band satellite from Inmarsat. Last year Inmarsat announced a joint satellite with Hellas Sat, with its half called Europasat, that will use the company's 30 MHz of S-band spectrum allocation across the European Union (EU). The LTE sites will have a range of more than 80 km, compared to the 10 km or less range of conventional LTE sites. Once an aircraft has reached 10,000ft, Deutsche Telekom's Air-to-Ground

(ATG) network will be combined with satellite connectivity. Lufthansa will be the first European hub airline to use the network, starting with satellite service in 2016 and progressing to a flight trial program of the European Aviation Network from 2017.

Chinese Small Satellite Launcher Completes First Mission

China's Xinhua News Agency has reported the successful launch of the Long March 6 rocket from the Taiyuan Satellite Launch Center in north China's Shanxi Province. The new carrier rocket, designed mainly for the launch of micro-satellites, orbited 20-such spacecraft during the mission. Xinhua said the satellites will be used for space tests. The launch tested the feasibility and accuracy of the rocket's design, along with other new technologies. The Long March 6 uses liquid oxygen and kerosene as propellants, and is the country's first carrier rocket to use fuel free of pollutants.

Afrikanet Gears up for Ka-band Broadband Boom

Afrikanet, a satellite Internet Service Provider (ISP) dedicated to African markets, expects to see a surge in business as more Ka-band High Throughput Satellites (HTS) are launched over its primary market. The company, formed in 1999 to provide last-mile connectivity, started offering satellite broadband in 2005. Now, with several satellites soon to launch, the company is planning a push into residential markets where satellite broadband was largely unaffordable in the past. "We recently started successful Ka-band testing," Casimir Berthier Fotso Chatue, CEO of Afrikanet, told Via Satellite. "We are starting to target East Africa, but our next phase is preparing for 2016-2017 when big players like Avanti and Yahsat will launch high throughput satellites. Each is launching one or two big satellites to cover West Africa. That's when we are going to really capitalize and bring satellite broadband to different households and directly target

growing middle class African end users in mass markets." Though based in Oxford in the U.K., Afrikanet is created and run by Africans, with personnel in Africa to be close to customers. The company has operations in 14 countries primarily in the Sub-Saharan portion of the continent. Fotso Chatue said Ka-band will enable satellite broadband similar to Direct-to-Home (DTH) broadcasts, further boosting connectivity in the region. He estimates broadband penetration was around 2 or 3 percent penetration when the company started, and is now around 14 to 15 in some countries. In more advanced countries the number is closer to 25 percent, he said. As more HTS systems come online, this number is expected to rise. Africa is a market of considerable interest for many satellite operators to add new capacity. In the Ka-band space, Avanti is launching the Hylas 3 steerable HTS payload in 2017, along with the Hylas 4 satellite the same year. Yahsat's Al Yah 3 is scheduled to launch in 2016. Earlier this Month, Fibersat announced a new hosted payload known as Fibersat 1 that will also bring Ka-band capacity to Africa in 2018.

Thuraya Reaches for More Smartphone Users with Two New SatSleeve Products

Thuraya Telecommunications has released a new generation of SatSleeve models, the SatSleeve+ and the SatSleeve Hotspot. The SatSleeve+ features a new voice routing system that improves on sound quality, and can be used with a wider range of smartphone models than before.



The device comes with a universal smartphone adaptor to reach a larger number of smartphone owners than was previously possible. The adaptor also allows users to switch between handsets, so owners of more than one smartphone do not need to buy

additional kit. The SatSleeve Hotspot creates a portable satellite Wi-Fi hotspot, giving people connectivity without physically docking their smartphone to a unit, and freedom to move indoors. A SatSleeve Hotspot user can leave the stand outside, stay indoors or in their vehicle, and use their smartphone in satellite mode inside. Both models enable users to make calls, use messaging applications, update social networks, send and receive email and SMS, and access apps. They also come with a programmable SOS button that works even if no smartphone is connected. Thuraya believes the SatSleeve+ and SatSleeve Hotspot will appeal to travelers, adventurers, outdoor sportspeople, and consumers who want ubiquitous connectivity, alongside core government, media, energy, and Non-Governmental Organization (NGO) sectors. The operator plans to market both devices through existing distribution partners, new agreements with Mobile Network Operators (MNOs) in key markets, and new channels generated through online retailer Expansys.

Intelsat to Reinforce and Extend Broadband Services in Mozambique

Mozambique's telecommunications company, Empresa Nacional de Telecomunicacoes de Mocambique, has renewed its relationship with Intelsat for satellite solutions that will help the company deliver broadband connectivity to corporate networks and provide cellular backhaul services to support residents in remote areas of the country. Under the multi-year agreement, Empresa Nacional de Telecomunicacoes de Mocambique will use C-band capacity on Intelsat 902 at 62 degrees east to provide dual band connectivity for its own transport network and use with local cellular operators. For a country that is susceptible to heavy rainfall and flooding, C-band spectrum is particularly useful given its known performance and durability in adverse weather conditions. "Our customers expect and deserve fast, reliable and continuous broadband connectivity regardless of location or weather," said Zainadin Dalsuco, CEO at Empresa Nacional de Telecomunicacoes de Mocambique. "By partnering with Intelsat, we can quickly scale our existing network to meet the increasing broadband demands in

the remote areas of Mozambique and ensure that our network infrastructure is robust enough to retain and, as needed, quickly restore service to local cellular operators and their customers throughout the country."

SkyNet 5A Satellite Arrives at Asia-Pacific Orbital Slot

Airbus Defence and Space's SkyNet 5A satellite has completed its 67,000km relocation from 6 degrees east to 95 degrees east, the company announced Sept. 15. SkyNet 5A began its transition on June 17. Airbus Defence and Space moved the satellite to extend SkyNet constellation's coverage and services from 178 degrees west to 163 degrees east, including the Indian Ocean and Western Pacific region. With the transition now complete, the SkyNet network offers near-global military X-band and Ultra High-Frequency (UHF) coverage, expanding core service reach for the U.K. military and augmenting coalition capabilities in the region. Airbus Defence and Space owns and operates the hardened SkyNet X-band satellite constellation of eight satellites and the ground network to provide all Beyond Line of Sight (BLOS) communications to the U.K. Ministry of Defence. The contract also allows other North Atlantic Treaty Organization (NATO) and allied governments, such as members of the five-eyes community (besides U.K., the U.S., Australia, New Zealand and Canada), to use the SkyNet system to augment their existing services. Airbus Defence and Space also leases the X-band hosted payload on Telesat's Anik G1 satellite, which covers the Americas and parts of the Pacific including Hawaii and Easter Island.

Eutelsat Inks new Broadcast and IoT Deals

Eutelsat Communications has signed up a number of customers in Africa and in Europe for broadcast services, and also tightened its collaboration with Internet of Things (IoT) pioneer Sigfox. New broadcast customers are planning to launch collectively more than 175 channels, with the transition from analogue to digital opening up new doors for satellite. United Business Machines EG (UBM), an IT specialist company in Equatorial Guinea purchased capacity for a new pay-TV platform called EG SAT,

which will broadcast more than 60 channels. Telekom Austria Group doubled the number of transponders leased on Eutelsat 16A from four to eight to support Antik Telekom's upcoming platform with more than 90 channels, of which one third will be in High Definition (HD). Canal+ is also launching a new pay-TV service by the end of the year with 25 channels, contracting a 72MHz transponder on Eutelsat 3B, and Arqiva in the U.K. inked an agreement for a 14th transponder for the country's Direct-to-Home (DTH) market.

Galileo Launch Grows Constellation to 10 Satellites

Two Full Operational Capability (FOC) Galileo satellites for Europe's Global Navigation Satellite System (GNSS) launched Sept. 10 aboard an Arianespace Soyuz rocket. Galileo 9 and 10, also known as Alba and Oriana, entered their target orbit close to 23,500-km altitude approximately 3 hours and 48 minutes after liftoff. Two further Galileo satellites are scheduled for launch by end of this year. OHB of Germany is building the satellites, with



Surrey Satellite Technology Ltd. (SSTL) in the U.K. providing the navigation payloads. The completed constellation will consist of 30 satellites and their associated ground infrastructure. For Arianespace, the mission was number eight of a planned 12 for the year, which would be a new record. The launch company is set to launch two more satellites with Soyuz this year, before switching to the Ariane 5 rocket in 2016 with a launch carrying four satellites. One more Soyuz and two more Ariane 5s will continue Galileo launches in 2017 to 2018. "The deployment of Europe's Galileo system is rapidly gathering pace", said Johann-Dietrich Woerner, director general of

ESA. "By steadily boosting the number of satellites in space, together with new stations on the ground across the world, Galileo will soon have a global reach. The day of Galileo's full operational capability is approaching."

Singtel, Orange, Deutsche Telekom and Telefonica Unite Startup Groups

Singtel, Orange, Deutsche Telekom, and Telefonica have teamed up their startup arms, Singtel Innov8, Orange Fab, hub:raum, and Telefonica Open Future, respectively, to link the startup ecosystems across Southeast Asia, Africa, Europe, Latin America and the Middle East. The partnership will enable selected startups to tap into the resources and networks of the four telecommunications companies in order to catalyze growth and to reach beyond their respective home markets. The benefits of this partnership for startup companies include market insights, introductions to partners, the use of co-working spaces and access to the larger companies' operating businesses. The four telcos may also offer the opportunity for selected startups to access their collective mobile customer base of more than 1 billion people across four continents. "With the partnership between Deutsche Telekom, Orange, Singtel, and Telefonica, we see a huge opportunity to develop the bridges between the ecosystems in Asia, Africa, Europe and Latin America, and to provide startups with critical market access, funding and expertise to become more successful with their international expansion," said Min-Kin Mak, VP of hub:raum at Deutsche Telekom.

Fibersat Signs Hosted Payload Deal with Arabsat

Burgeoning satellite operator Fibersat has signed a framework agreement with Arabsat for the acquisition of a high throughput Ka-band hosted payload on an upcoming satellite. The payload, known as Fibersat 1, will provide High Throughput Satellite (HTS) capacity for markets in Africa starting in 2018. At launch, Fibersat will provide Internet access services to remote locations across the continent using low cost, commercially available

VSAT terminals. The company has already signed significant pre-launch orders with telecommunications operators providing network services in the Africa region. "Fibersat has now taken the first step in realizing the dream of ultra low cost broadband in Africa," said Christof Kern, CEO of Fibersat. "By combining the benefits of a power-optimized HTS design and leveraging a hybrid satellite architecture, Fibersat will be able to offer customers unprecedented price levels for satellite services which is key in price-sensitive markets like Africa. This is the only way to meet the exploding demand for Internet in Africa, the fastest growing market in the world."

Turksat Selects Arris' E6000 CER for Future Broadband Services

Turksat has selected Arris Group's E6000 Converged Edge Router (CER) to prepare for future IP interactivity and higher speed broadband services. The router will support today's Cable Modem Termination System (CMTS) requirements as well as the company's transition to a Converged Cable Access Platform (CCAP). Turksat will be able to reach broadband speeds of up to 500Mbps and 1 Gbps while future-proofing its headend for service expansion. Turksat manages and operates three satellites — Turksat 2A, Turksat 3A, and Turksat 4A— and has its next satellite, Turksat 4B, slated to launch on a Proton rocket in October. The company provides cable and wireless broadcasting, high-speed Internet, and Direct-to-Home (DTH) broadcasting services. Additional satellites are planned for integration into the operator's growing satellite fleet.

Arabsat, EMC Launch Triple-Play Joint Venture

Arabsat and Emerging Markets Communications (EMC) have established a Joint Venture (JV), called Trio, dedicated to offering triple-play services over satellite. The Trio platform is built on EMC's SATLink technology, and will launch on Arabsat's upcoming Badr 7 satellite. The JV will provide a Set-Top-Box (STB) that bundles 10 Mb broadband connectivity, Free-to-Air (FTA) and pay-TV reception and Video-on-Demand (VOD) with smart algorithms and large recording capability for national and international

content. The service will also act as a Wi-Fi bridge for households so that handheld devices can be connected to Internet and television. Badr 7 is scheduled to launch through Arianespace in early November 2015. The spacecraft's high throughput Ka-band payload is designed to support Trio solutions for the Middle East and North Africa (MENA) and other select African markets. The service will be formally launched upon readiness of the satellite for commercial operations. Trio will have also an enterprise version for broadband over satellite and will be able to support 4K content. "Under the current JV, the assets and know-how of SATLink have been transferred into Trio to allow for an autonomous operation and to serve the needs of both Arabsat and EMC and support their big database of customers," said Santiago Rossi, general manager of the newly established Trio.

How to Get Rid of a Satellite After its Retirement

Researchers at University of La Rioja (Spain) have developed a new method to eliminate artificial satellites in Highly Elliptical Orbits when they finish their mission. The methodology, which allows for a reduction of both cost and risk, has been tested with the European Space Agency INTEGRAL mission, which will re-enter into the Earth's atmosphere in order to disintegrate in 2029. The problem of space debris

is one of the main challenges that aerospace engineers have to face, due to the danger it poses to satellites. In this context, members of the Scientific Computing Group (GRUCACI) at University of La Rioja have developed a method to eliminate satellites in Highly Elliptical Orbits (HEO) when they finish their mission. HEO orbits are very eccentric (the farthest position can be ten times farther from the Earth than the nearest) and inclined (60 degrees or more with respect to the equator); their evolution is strongly influenced by the gravitational effects of the Earth's equatorial bulge and the pull from the Moon and the Sun. Both effects can cause satellites placed in this type of orbits to cross two 'protected' regions (Low Earth Orbits, LEO, and Geostationary Orbits, GEO) during long periods of time, thus increasing the risk of collisions with the numerous satellites operating in them. In addition, the probability of an uncontrolled re-entry into the lower layers of the Earth's atmosphere also increases. "Our research has focused on taking advantage of the same gravitational effects that affect HEO orbits so as to reduce the cost of eliminating the satellites which operate in them once they have reached retirement", Roberto Armellin, co-author of the work, explains to Sinc. "Some propellant needs to be reserved in order to perform the satellite disposal manoeuvres, so it cannot be used to extend the mission duration, which makes it more expensive", the researcher adds, "so we have developed a methodology

aimed at reducing the amount of propellant needed, and hence the associated cost". The researchers have undertaken their study, which they have published in the journal *Advances in Space Research*, as a mathematical optimization problem in which several objectives have to be simultaneously fulfilled, and they have solved it by means of an evolutionary algorithm -based on biological evolution-. They have also used their own orbit propagator software, which is designed to propagate the evolution of an orbiter during 100 years in just a few seconds. This program allows finding the best conditions and instants for satellites to re-enter into the Earth's atmosphere, where they can safely disintegrate with minimum risk for other satellites. In order to prove the effectiveness of their methodology, the researchers have applied it to the European Space Agency (ESA) INTEGRAL mission, an advanced gamma-ray space observatory launched in 2002. "The simulation results suggest designing manoeuvres so that the INTEGRAL satellite re-enters into the Earth's atmosphere, and subsequently disintegrates, during the period of time from September 2028 to July 2029, in a controlled way and with a cost which is reduced by the amplification of natural gravitational effects", Armellin points out. This solution coincides with the real strategy adopted by ESA to eliminate INTEGRAL, which has fired its engines four times this year so as to re-enter safely and with a reduced cost on February 2029. The latest regulations of ESA about space debris require that, once the end of life has been reached, if a satellite continues to cross the LEO protected region it must re-enter into the Earth's atmosphere and disintegrate before 25 years. INTEGRAL is going to comply with these regulations, even though it was not obliged to, due to its launch date. The study of the GRUCACI team also proves that it is possible to select some latitude regions such that the satellite re-entry takes place with minimum risk to cause damage to populated areas of the Earth.





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

Follow Us:  