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SAMENA TRENDS

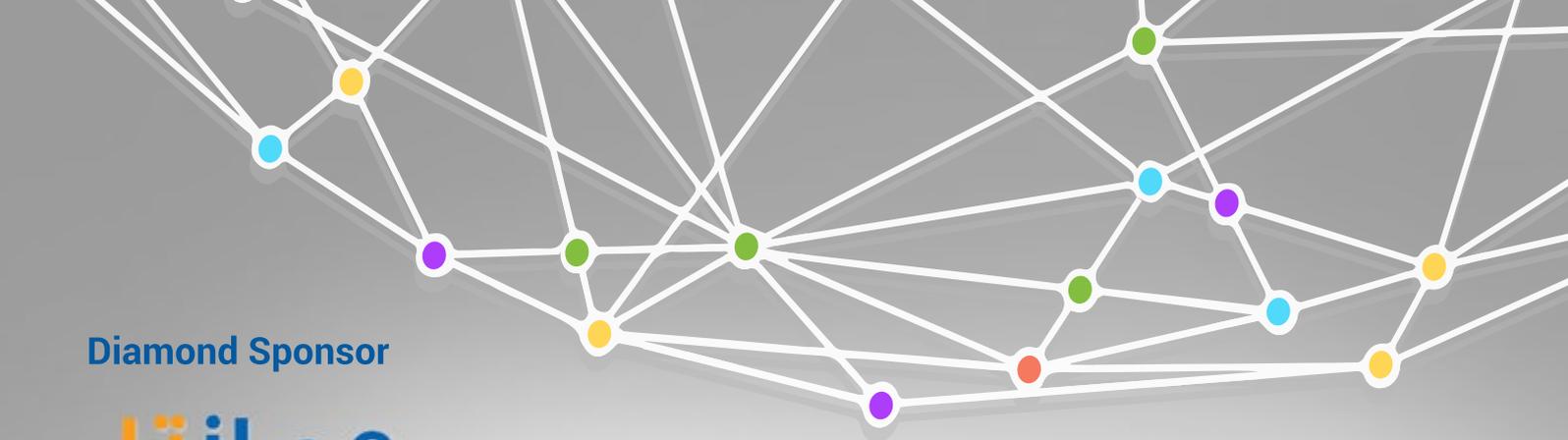
EXCLUSIVELY FOR SAMENA TELECOMMUNICATIONS COUNCIL'S MEMBERS

BUILDING DIGITAL ECONOMIES

EXECUTIVE INSIGHTS FROM THE BOARD OF DIRECTORS



REGIONAL PERSPECTIVES ON CROSS-BORDER DATA TRANSFERS



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Beyond Connectivity 2017

*Building corridors in digital development
to fulfill national commitment*

About Beyond Connectivity

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



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CONTENTS

05 EDITORIAL

35 REGIONAL & MEMBERS UPDATES

- Members News
- Regional News

56 SATELLITE UPDATES

- Satellite News

64 WHOLESALE UPDATES

- Wholesale News

70 TECHNOLOGY UPDATES

- Technology News

76 REGULATORY & POLICY UPDATES

- Regulatory News
- A Snapshot of Regulatory Activities in the SAMENA Region
- Regulatory Activities Beyond the SAMENA Region

ARTICLES

67 VoLTE Emerges as Mission-Critical Technology for Operators in 2017

74 Journey of Seeking Maturity in IT Jungle



06

SAMENA Council leads discussion on the relevance of ICT measurement...

08

Year-end Message & Executive Insights from the Board of Directors

CONTENTS

Jumeirah Mina A'Salam Hotel - Dubai

MAY 2017

TELECOM LEADERS' SUMMIT 2017



Meeting between **Government Leaders** and
Telecommunications Industry CEOs



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Regional perspectives on cross-border data transfers

The production and use of data is something very fundamental to the ongoing economic activity in this digital age. With the existence of advanced communications infrastructure, it has become easier and a matter of business necessity to move data freely, but in a protected way and carried out on the basis of approved codes of conduct and in line with national policies.

Cross-border data flows take place when companies sell to overseas customers, when online IT services such as cloud-computing are used, when multi-national companies prepare for global employee privacy policies, when new global human resource systems are implemented, when multi-network operators centralize their data, or when data is transferred across offices across borders. This raises complex cross-border data-transfer issues, including policies that may not be effective enough or could be the result of conflicting obligations for telecom operators, enterprises, or large corporate.

Understanding these complexities and their impact is crucial to understanding how digital data flows between countries do add value to an economy and contribute to economic growth through trade and other cross-border transactions among both consumers and businesses. The impact of data transfers can be directly observed in relation to citizens' ability to understand the world by accessing information, placed across borders, or by digitally interacting with people and businesses in other countries.

There are three key factors that demand our attention, debate, and collaboration on the subject of data transfers across borders: One, both industry and cross-national trends in data flows are pointing to the need to examine the relationship between cross-border data flows and economic growth. There is growing consensus that data flows have real economic significance. Two, data protection and privacy measures are being taken. A study by Article 19, a human rights organization, shows that over 100 countries now have data protection laws. Tens of other nations across the globe are considering new laws, and most countries have established a data protection authority to enforce privacy protections. Third, nations are developing new policy frameworks that allow for the exchange of data across borders. The recent agreement between the EU and the US, called Privacy Shield, allows businesses to transfer personal data on European citizens to the U.S.

There are many uncertainties and complexities that have to be addressed before data flows across borders become a routine matter. To reach this point, policymakers, industry decision makers, and analyst firms should engage with each other to improve their data measurement methods and to quantify the importance of cross-border data to make better decisions and increase our collective understanding of how digital data flows impact the SAMENA region's economies.

Both the government and private sectors realize that the process of policy-making always struggles to keep pace with the industry's growth and the rapid pace of technological change. This has been evident in view of cloud services, for example, whereby national policies have had to address data privacy, security, and the free flow of data. National-level efforts then have been complemented with international best practices that help to provide investors confidence and maintain a sense of certainty in being able to do business.

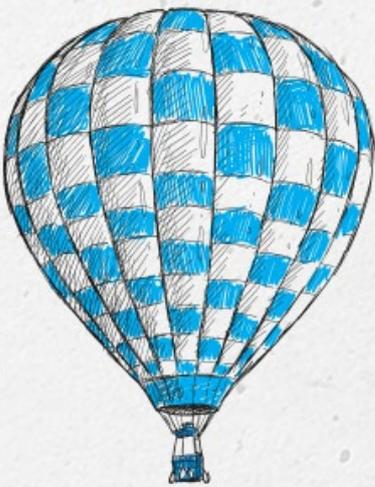
Traditionally speaking, governments have pursued laws and policies that seek to restrict the flow of cross-border data. In the context of national security and data protection, such approaches may have been justified. However, such approaches should be revisited in view of data localization requirements that many governments require of businesses operating in multiple geographical locations. Policymakers, given new trends in ecommerce and digital business activities, should take into policy consideration factors such as barriers to foreign direct investment or barriers to cross-border trade.

In the developing countries of the SAMENA region, greater collaboration between governments and private-sector entities, led by telecom operators, are gradually addressing the numerous contexts that cloud-based computing and data flows across nations pose. While more research and data collection are needed to fully understand where and how data is flowing throughout the SAMENA region's economy, it is important that this subject become a part of our agenda of discussion in 2017. 



Bocar A. BA
Chief Executive Officer
SAMENA Telecommunications Council

SAMENA COUNCIL ACTIVITY



ITU Regional Forum on ICT Measurement

13-15 December 2016
Dubai, United Arab Emirates

SAMENA Telecommunications Council moderated the Session 5 "The relevance of ICT measurement for policy making"

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



SAMENA Council leads discussion on the relevance of ICT measurement for policy-making in ITU's Regional Forum on ICT Measurement

On December 14, 2016, SAMENA Telecommunications, by invitation from the Telecom Regulatory Authority of the UAE, participated in the International Telecommunications Union's regional forum on Information and Communications Technology Measurement. Aimed at enhancing the countries' capabilities in the region to produce ICT related statistics on internationally agreed standards and national methodologies and indicators, the ITU Regional Forum on ICT Measurement served as a congregation platform for high-level officials and international experts in this specialized field.

Hosted by the TRA-UAE, the forum brought together representatives of ministries, regulatory agencies, national statistical offices, service providers, regional and international organizations, as well as other relevant stakeholders to coordinate and to provide the capacity to their respective nations in being able to produce accurate national data on ICT development.

Hosted by the TRA-UAE, the Forum brought together representatives of ministries, regulatory agencies, national statistical offices, service providers, regional and international organizations, as well as other relevant stakeholders.

The field of ICT measurement has become immensely important, as observation and anecdotal evidence have identified that lack of data makes it difficult, if not impossible, to make the case to policymakers for framing measurable ICT policies, plans to improve the telecoms/ICT sector, and define other facets of inclusion that the industry is aiming to achieve - for example, through *digital inclusion* and *financial inclusion*.

In a world of vastly changing economic transactions, the ICT sphere is undoubtedly important to sustaining economic activity. Both the public and private sectors are challenged to keep up with the pace of changes in ICT. If this pace and its impact are not measured accurately, collectively speaking, an effective move forward would not be possible. There have been clear indications that we need more statistical data to address gender disparities, for example, in the context of the information society. The same may apply to special citizens, and various other groups and sectors.

Mr. Bocar BA, CEO, SAMENA Telecommunications Council, who moderated Session 5 of the Forum, deliberated on the need to convey to nations how integral it has become to participate in ICT statistics gathering, and to frame policies that should be supported by far-reaching visions and clear direction. Accurate statistics would help eliminate vagueness in national objectives, and would better assure that well-defined objectives in ICT development meet timely fulfillment. SAMENA Council viewed the absence of national indicators as impedance that could compromise nations' ability to measure progress on SDGs relating to ICT development, and on overall socio-economic development.

Eng. Tariq Al Awadhi, Chairman of the National Indicators Team at TRA, who represented TRA during Session 5 of the Forum, indicated that the UAE government focuses on the use of indices and statistics as a way to strengthen national efforts towards enhancing competitiveness, through deriving 70 national objectives, in addition to mobilizing all government



and national efforts to achieve these objectives by the UAE Golden Jubilee, within the UAE vision 2021. The TRA reiterated the national keenness to be ranked among the top ten countries in the global Network Readiness Index, and to be ranked first in the Online Service Index, OSI.

UAE was recognized by the ITU during the Forum for being ranked First in the region at the ICT Development Index (IDI) access sub-Index.

Statistics provide specific country contexts with respect to digital progress. This is very important, as each country has its own needs and pace of development, and ICT adoption. Nations cannot set priorities without having visibility. This is extremely important for detecting and addressing digital divide, across communities, across genders, and across development economies. It is a key strategy for moving forward on universally agreed upon areas of sustainable development.

Through this Forum, the ITU has delineated the fact that "affordability and knowledge are an important part of the access picture, and new indicators are needed. The new environment, with a growing emphasis on reducing the digital divide, requires access and usage indicators disaggregated by socio-economic categories such as

age, gender, income and location. To measure the ICT picture in full, new multi-stakeholder partnerships will be required."

SAMENA Council believes that such initiatives facilitate greater communication among stakeholders and could serve as a means to achieving progress on multiple fronts for the benefit of the governments, the citizens, telecom operators, and the providers of new technologies alike. 📌

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CEO, SAMENA
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Year-end Message & Executive Insights from the Board of Directors



Mr. Bocar A. BA
CEO
SAMENA
Telecommunications Council



Industry challenges in 2016 and growth catalysts & priorities for 2017

The SAMENA region's telecom sector is at the heart of growth, innovation, and disruption for virtually every other industry and economic sector across regional economies. This is so, because mobile devices and related broadband connectivity continue to be more embedded in societal development and socio-economic growth.

Perspectives from the Past

Throughout 2016, the focus of decision-makers' anticipation was on *reflection, questioning, communication, cooperation-building, and understanding how stakeholders* - regardless of the sector they belong to - need to work together. All of these factors will necessarily determine how the telecoms/ICT industry would move forward in the future.

It was openly discussed how telecom operators need to continue to focus on providing data and voice services of the highest quality, meeting KPIs of quality of service, reliability, affordability, and overall good customer experience. This would need to be achieved in a business environment where there is an ever-increasing usage of digital communication services, yet degrading returns, scarcity of spectrum resources, and both policy and regulatory-level complexities. High importance was given to revisiting business-level and network-level strategies, and to the notions of multi-stakeholder collaboration and of integration with like-minded industry players - not necessarily from within the ICT industry only - to be able to effectively deal with market, business, and policy challenges. Signs of what is expected to come in the shape of a big transformational change as fifth-generation networking surfaces, included wearable devices, streaming content, e-commerce and mobile financial transactions, IoT, data analytics and location-based advertising, and customer experience strategies.

It was openly discussed how telecom operators need to continue to focus on providing data and voice services of the highest quality, meeting KPIs of quality of service, reliability, affordability, and overall good customer experience.

Also became the subject of discussion, at least on SAMENA Council's own platforms via the Council's own initiatives, were responsibilities of telecom operators toward themselves and toward the industry, the need for fair regulatory approaches, inclusion of over-the-top players into the regulatory net to foster fair market competition, the need to expunge the myth that telecom operators are overly profitable and thus should be heavily taxed, and an emerging trend of excessive regulatory interference under the pretexts of consumer protection or national security.

Future success of the SAMENA region's telecoms and ICT industry, as was deliberated, requires a makeover. Understanding challenges of the digital economy and the stakeholders' need for aligning common priorities in a better connected world, were deemed the new collaboration imperatives for shaping the future of the digital marketplace.

Future success of the SAMENA region's telecoms and ICT industry, as was deliberated, requires a makeover. Understanding challenges of the digital economy and the stakeholders' need for aligning common priorities in a better connected world, were deemed the new collaboration imperatives for shaping the future of the digital marketplace.

Preparing for the Future

In preparing for the future ahead, all stakeholders need to keep in view the speed at which connectedness, rather hyper-connectedness, is materializing, and how it is impacting data consumption and defining new business horizons in telecom-media convergence. Data volumes, supported by new wireless systems that will include advanced terrestrial as well as space-based broadband access systems, will maintain their trajectory toward zettabytes as new connected data sources join the network, the Internet of Things. With such levels of connectedness, there shall also come new security and privacy-related challenges for both customers and service providers, requiring innovation on the part of both.

The impact of the evolving realities of telecoms technologies, and of data, on the dynamics of the marketplace and on the socio-economics of developing economies, *is real*. This can be observed through the lens of infrastructure development and progress in ICT development. Fortunately, to support ICT development, public and private sector stakeholders are

gradually modifying their stances and approaches. Due to digitization, inclusion of all, is being made possible.

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

Regulatory policies that deviate from the realities and outcomes of the market in any way, would not only reduce the pace of adoption of advanced digital services, they would compromise the very openness that regulatory authorities all around the world are trying to promote in order to invite the interest of the private sector in the provision of new services that promise the end-user digital inclusion, participation, convenience, and access to information that may add quality to life.

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SAMENA Council's Role and Evolving Expectations

The Board of Directors of SAMENA Council takes pride in the transformation that has taken place within the Council and the industry. Plans are to continue refining our collective energies and remain focused on the agenda that will support cross-stakeholder dialogue among telecom operators, policy-makers and regulators, and other market players, and will also help pave a path toward rejuvenation of the business environment within the telecom/ICT industry.

SAMENA Council contributes on fronts that can directly enable digitization and digital economic development, encourage broadband investment, facilitate transparency and good governance, and foster multi-stakeholder cooperation.

SAMENA Council, while categorically being an advocacy body for regional telecom operators, is also expected by other stakeholders to serve as a sector development partner. Both roles demand facilitating constructive communication and collaboration with regulatory bodies, and assisting in both assessing realities of the regional marketplace and aligning stakeholder priorities with much larger national and international sustainable development goals.

It is widely believed that working together provides good opportunities to both private and government sector stakeholders to refine their relationships with each other, overcome traditional gaps in communication and standpoints, and pave a path for both industry growth and human progress. SAMENA Council contributes on fronts that can directly enable digitization and digital economic development, encourage broadband investment, facilitate transparency and good governance, and foster multi-stakeholder cooperation.

In addition to being an industry advocate, SAMENA Council has repeatedly called for openness and collaboration among stakeholders. In many incidences, SAMENA Council's intervention and efforts to fill communication gaps have been instrumental in bringing stakeholders together on unified platforms. An example of this is the first-time closed-door meeting of telecom operators' CEOs and the ITU's leadership, which SAMENA Council facilitated earlier this year in order to elevate the private sector's viewpoints to Administration level consideration.

Most recently, SAMENA Council actively contributed to an ITU and TRA-UAE led initiative to help encourage and equip nations in developing ICT statistics and relevant indicators. Accurate statistics would help eliminate vagueness in national objectives, and would better assure that well-defined objectives in ICT development meet timely fulfillment. Lack of national indicators have long impeded and compromised nations' ability to make and measure ICT progress.

In the near future, SAMENA Council will be engaging in more collaborative initiatives with regional governments, and we also look forward to contributing to leading global initiatives, such as the global m-Powering Development Initiative, which aims

to promote the benefits of mobile communication technologies to help increase digitization and accelerate the attainment of the Sustainable Development Goals (SDGs), which have been defined as global KPIs for stakeholders across sectors, across continents.

Sustaining Growth in the age of Data Economy

With all the changes catalyzed by the telecom/ICT industry for advancing the human society, it is imperative for all of us to openly discuss the changes that all wish to see materializing, so that the industry maintains its path to sustainable development. Moreover, as a legacy for the future generations, the current stakeholders across public and private sectors have the responsibility to pave the most efficient paths for steering knowledge-based economic development. This requires connectivity and ubiquity of communications networks, but, most importantly, sustainability in the way telecom operators do their business while remaining relevant to national digital development agenda. As a sector development partner, SAMENA Council extends its resourcefulness and availability to policy makers and regulatory bodies, to help fulfill their own KPIs and national agenda requirements.

We all have to assist in transforming traditional regulatory approaches to communications services in view of asymmetries that exist between telecom services and over-the-top services. To this effect, the wholesale and the retail economic market structure has to be revamped, which need to be backed up by holistic ICT based national broadband visions, policies and initiatives. All stakeholders also need to ensure confidence in the industry's use of data. Similarly, confidence

We all have to assist in transforming traditional regulatory approaches to communications services in view of asymmetries that exist between telecom services and over-the-top services. To this effect, the wholesale and the retail economic market structure has to be revamped, which need to be backed up by holistic ICT based national broadband visions, policies and initiatives. All stakeholders also need to ensure confidence in the industry's use of data.

needs to be ensured on spectrum resources, which should be made accessible as promptly as possible and at moderate costs. Both the pricing and the timing of the release of new bands for 4G and 5G are of paramount importance. Lastly, among the most importance industry issues, it is crucial to understand the consequences of excessive taxation and to take steps to reduce taxes, lessen the burden on telecom-only industry, and eliminate redundant regulatory fees.

It is also necessary to refine policies and set measureable indicators to gain visibility and to address, or to altogether eliminate, jurisdictional ambiguities, for example, concerning data management in alignment with the realities data flows and cross-border communication in play. Doing so is necessary for economic growth and for realizing cost-reduction efficiencies. In spite of the use of the acronym ICT, regulations remain telecom – centric in an ever-converging industry, causing asymmetries in regulation to continue to impact market developments.

Addressing issues and challenges pertaining to digital services, regulation of data, spectrum, and taxation, in SAMENA Council's view, should be the core priority, as these areas encompass everything that the industry is pursuing. These four major catalysts, or industry priorities, will have significant impact on how the industry evolves and how it is enabled by the stakeholders to play its ever-more central role toward achieving the desired digital economic impact. The market must remain sustainable and fair for all, with particular attention given to the needs of the largest investors of all - telecom operators.

The emerging future has invited cross-checking of abilities, readiness, and visions to respond to the growing realities of the market, which include, among many, convergence of media, content, digital services, and overall digitization.

Considerations for Industry Stakeholders

If we are able to address some fundamental issues promptly and through stakeholders' much-needed cooperation and collaboration with each other, the industry has much to look forward to on numerous opportunity fronts. One of the immediate steps to accelerate growth and foster development would be to address the scarce resources challenge. Many of the regional markets have opaque or low grade spectrum management planning. Spectrum policies need to be put in place and applied in a timely manner to enable availability

of sufficient and appropriate frequencies to meet rising user demand and face our upcoming data-driven economies.

SAMENA regional countries do need to adapt to the undergoing change, and traditional regulatory environments also need to change and be adapted to the economic realities of the new marketplace.

As we enter 2017, there are specific areas of focus for all stakeholders to consider:

1. Support technological innovation and the unrestricted choice of technologies.
2. Encourage the development and use of technology ecosystems that are open, safe and interoperable.
3. Encourage the use of existing standards and frameworks for globally synchronized regulatory approaches.
4. Create standards, guidelines and regulations in an open and transparent process.
5. Add value by evaluating policies, procedures and operational results, not the technical details and intellectual property of software, or the technologies.
6. Cybersecurity is a shared responsibility requiring proactive and reactive action on the part of national governments, regulators, financial services firms, partner businesses, and individual employees and customers.
7. Operators must strike a balance between security and privacy based on their obligation to maintain the privacy of their customers' data, but at the same time monitoring customer and system activity to ensure their networks are secure and operating within the law.
8. The global Data Economy is in the process of flourishing and requires unprecedented level of stakeholder cooperation, communication, and collaboration.
9. As the ITU has reiterated and industry experts agree, getting the regulatory environment right is vital to the fulfillment of digital agenda, socio-economic success, and to ensuring sustainability.
10. First openly highlighted during GSR-16, the concept of Collaborated Regulation is receiving much attention from both public and private sector stakeholders.
11. As the the ICT sector will be absolutely crucial to fulfilling the globally agreed on Sustainable Development Goals, achieving success depends on how well the ICT sector is enabled to impact other sectors, including the education and the financial sectors.

One of the immediate steps to accelerate growth and foster development would be to address the scarce resources challenge.



Dr. Khaled Biyari
Group CEO
STC

STC
الاتصالات السعودية



Our Contributions & Achievements in 2016

In 2016, STC continued its transformation journey across different fronts. For instance, we continued our major focus on enhancing our customer experience (CE) across our consumer and enterprise customer segments. STC has made significant investments in the CE systems and technologies across all its customer touch points.

On the Consumer side, we successfully managed to execute one of the largest projects in our history to implement the Government direction relating to fingerprinting all of our mobile customers. This was done in record time. We also launched "Jawwy"; the first digital telco brand in the region and one of the most unique ones in the world to deliver an innovative telco service through a complete digital approach.

STC also launched its Enterprise Cloud Marketplace to offer an advanced suite of cloud services. We launched also the first cloud computing based partnership initiative with the government through the launch of the Saudi Cloud Computing Company "SCCC." This is completely aligned with the objectives of the Saudi National Transformation Plan 2020 and the Vision 2030.

In addition, a new advanced IoT platform was introduced by STC during GITEX as one the most advanced platforms introduced by a Telco in the Region.

On the Technology front, a major transformation of the Technology & Operation organization was started to accompany a new network architecture that is planned to be finished by 2020. Alongside side that, STC has started this year investing heavily in two very important areas: data analytics and cybersecurity.

How We See the Industry in 2017

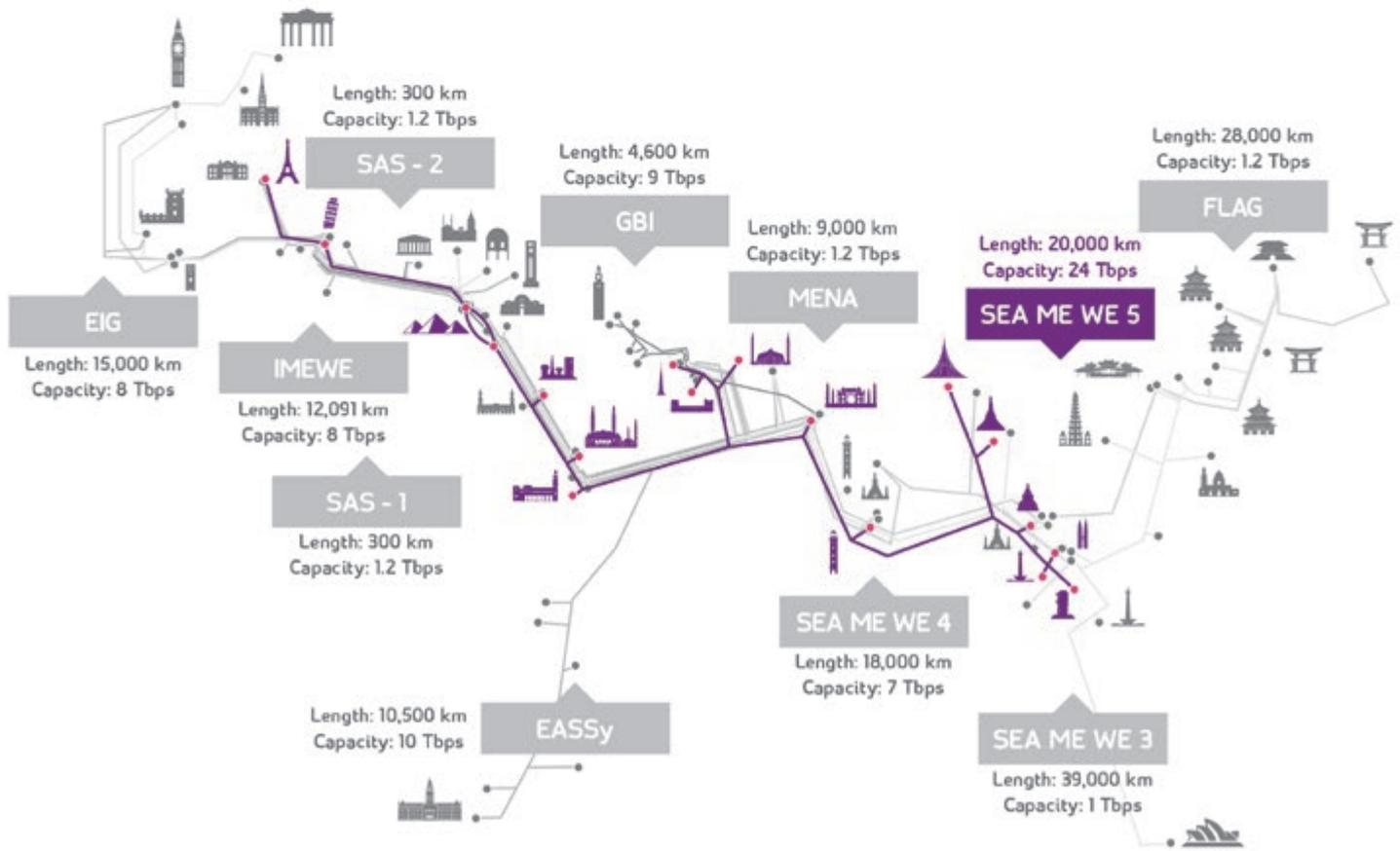
I think 2017 will be the year that we can expect to see digital innovation across many areas to become more mature. I would also expect that Telco's in this region start making some big bets in adjacent areas to overcome the decline of revenues coming from traditional telco services.

A new advanced IoT platform was introduced by STC during GITEX as one the most advanced platforms introduced by a Telco in the Region.

STC Global Network

SEA-ME-WES has been designed in a unique and diligent way to ensure the reliability of the system and the integration with other cable systems.

For more info, visit www.stc.com.sa





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**UPGRADE
YOUR WORLD**



Mr. Ihab Hinnawi
Group CEO
Batelco



Our Contributions & Achievements in 2016

Batelco has always embedded innovation and forward thinking as central to its strategy. For over 100 years, the company has been connecting people and places via the most up to date telecommunications services available. Today, across our Group of companies, we continue to cater to the diverse needs of our widely differing markets by focusing on being a key player in the changing landscape of the communications environment and cross technology convergence.

During 2016, we aimed to differentiate ourselves from our competitors by offering a leading network and investing in superior telecommunications networks so that we can sustain high levels of cash generation and reinvest in our new business based on Batelco Group Digital Solutions and BG New Future Operating Model. So, our important objectives is to making a substantial strategic progress during the next two years while ensuring profitability, as well as increasingly positioning Batelco Group as a top tier and leading integrator of digital solutions & services in its chosen markets through a customer-centric business model.

To do so, we have worked hard this year and we will continue to do it in for 2017 in order to put in place a new ecosystem and business models helping us to fit the new pace of change in the industry, So growing the importance of data, improving our OpCos efficiencies, leveraging the benefits of our international presence by training and developing the best people and investing in the new revenue areas are representing our strategy pillars.

During 2016, we aimed to differentiate ourselves from our competitors by offering a leading network and investing in superior telecommunications networks so that we can sustain high levels of cash generation and reinvest in our new business based on Batelco Group Digital Solutions and BG New Future Operating Model.

In terms of products, offers and services, as we are both a multinational and a multicultural company, our diverse workforce helps us better understand and meet the needs of our customers, so we have a comprehensive portfolio of total communication services including mobile, fixed data and business solutions. During 2016, we invested a lot of efforts to position ourselves as the best Customer Experience operator in our different markets. We have already reached 70% of our objective in one year. In addition, we have witnessed exceptional demand for data this year in the most of our markets, especially 4G in the Middle East markets, with data growth revenues are forecast to grow at a CAGR of 1.9% out to 2020. So, we expect that our Mobile broadband subscribers in those markets will continue to growth due to a young and growing population, rising GDP and high rate of smartphone penetration.

In 2016, Batelco Group accelerated the pace of transformation and continued progress, with controlling our financial performance despite the economic crisis and the industry recession, we are increasing signs of stabilization in some markets and continued to improve our operational performances in some other markets. Some important achievements have been done during this year like the reception of the ISO 9001:2015 certification (Batelco was the first telecommunications company in the Middle East to be awarded from the BSI Group (British Standards Institution). Batelco was also recognised by Speed test by OOKLA for its outstanding performance in some our markets presence. Furthermore, we invested in some important strategic projects across our different operators and branches, as the Mobile Network expansion projects, the 4G Licences and their roll-out and the unified communications. Our main operators offer today end-to-end telecommunications solutions for its residential, business and government customers.

We expect that our strategic investments realized during 2016, especially in the convergence, fixed segments, data and digital ecosystem will deliver a clear improvement in our commercial performance during the next two years.

How We See the Industry in 2017

The Industry is ever challenging and we need to be focused and aware of new developments both in the markets we operate in as well as new developments in technology. My expectation from the industry players is:

1. Telco Market & Regulations

- 2017 shall see more Market consolidation, outsourcing, partnering and network separation due to economies of scale and scope in NGNs
- Unequal treatment between Telco operator and OTT due to regulations will continue

In 2016, Batelco Group accelerated the pace of transformation and continued progress, with controlling our financial performances despite the economic crisis and the industry recession, we are increasing signs of stabilization in some markets and continued to improve our operational performances in some other markets.

2. Competition

- There will be stronger industry competition due to cable provider and discount provider leveraging on technology to strengthen their market positions
- More Shift of profit pools to OTT player due to OTT backward integration offering services & connectivity

3. Customer expectations

- 2017 shall see more Integrated digital products and services from a single source with convergent bundle tariffs
- Easy and fast customer service consistent across all touch points (digital & non-digital) anywhere and anytime.

As for the future of the industry in 2017, I believe Mobile Operators need to focus on:

1. Data as a key growth area – Operators must have a winning data strategy in place (a decline in voice call traffic should enable carriers to reduce the quantity of spectrum assigned to voice, and make this available for data).
2. Investing in infrastructure and strengthen position on fixed broadband
3. Increasing the customer experience end-to-end will be key, with a strong emphasis on digitalization.
4. Building partnerships to diversify the value proposition,
5. Building a broad range of service
6. ICT market by trying to offset challenges from traditional connectivity

Our Contributions & Achievements in 2016

Etisalat Group provides comprehensive telecommunication services and solutions to more than 162 million customers in 17 markets in the Middle East, Africa and Asia. Since its launch, it has established itself as a key contributor to the UAE economy and a leading company in emerging markets. Etisalat Group is currently listed as one of the largest telecommunication companies in the region with a market cap of AED 164.8bn (USD 44.9bn), as of 2015 Annual Report.

In 2016 Etisalat celebrated its 40th anniversary and another year of innovation and strong performance. Continued capital investment has maintained the UAE as a global leader in fibre connectivity with 90% of all populated areas connected by Fibre-To-The-Home (FTTH) with transmission speeds of up to 500MBs and 4G mobile data of up to 300MBs. This year Etisalat also completed the region's first 5G mobile technology live trial that achieved a world first in terms of speed (36Gbps). 5G is the next step in the evolution of high-speed mobile broadband services that will shape the Smart future, which will transform the way we live and do business.

This year Etisalat was honoured to be appointed a partner to Expo 2020, which will be hosted in Dubai, and we look forward to contributing to its success. Etisalat's technology strategy is aligned with Expo 2020 expectations and is on track to deliver one of the fastest, smartest and best connected places in the world.

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Dr. Kamal Shehadi
Chief Legal and Regulatory Officer
Etisalat International



During 2016, Etisalat continued to expand the availability of its 4G services. It is currently licensed in 11 out of the 17 countries where we operate, providing a combined population of 790 million people with the ability to access 4G services.

How We See the Industry in 2017

Digital transformation of economies and societies lies at the heart of ICT strategies throughout the world. The proven economic benefits of ICT provide a powerful incentive for Governments to increase the pace at which access to new technologies is made available to their citizens and businesses. Increasingly, there is a move towards looking holistically at the long-term investment cycles of the industry, and a move away from the short-term revenue grab normally associated with the release of new spectrum and the launch of next generation of services. However, this is often tempered by the policy dichotomy between the country's short-term treasury needs and those relating to socio-economic development. Consequently, this much needed change in policy perspective is not keeping pace with the desire to launch next generation products and services. This widening gap consequently creates a counter productive, immovable force that constantly diminishes returns on investment, damages investors' confidence, and limits the pace of innovation.

The Internet-of-things (IoT) and Mass Machine-to-Machine (Mass M2M) services are the visible tip of the iceberg from a products and services perspective. However, in order to unlock the value offered by these products and services - estimated by 2020 to be in the order of US \$600bn globally and US \$480mn within the MENA region - it is essential that this change in policy mind set occurs without delay. Governments, regulatory authorities and licensed service providers need to form collaborative alliances, not just domestically, but also regionally and globally. This will allow the deployment of efficient network architectures designed to provide the scale necessary to generate the economic efficiencies that will underpin the next wave of investments.

2017 will be heavily focussed on continuing to prepare the necessary standards and spectrum allocations for 5G services. With Expo 2020 on the horizon for the UAE and Etisalat, like Japan and South Korea, some of these decisions will need to have been made prior to the October 2019 WRC19 meetings.

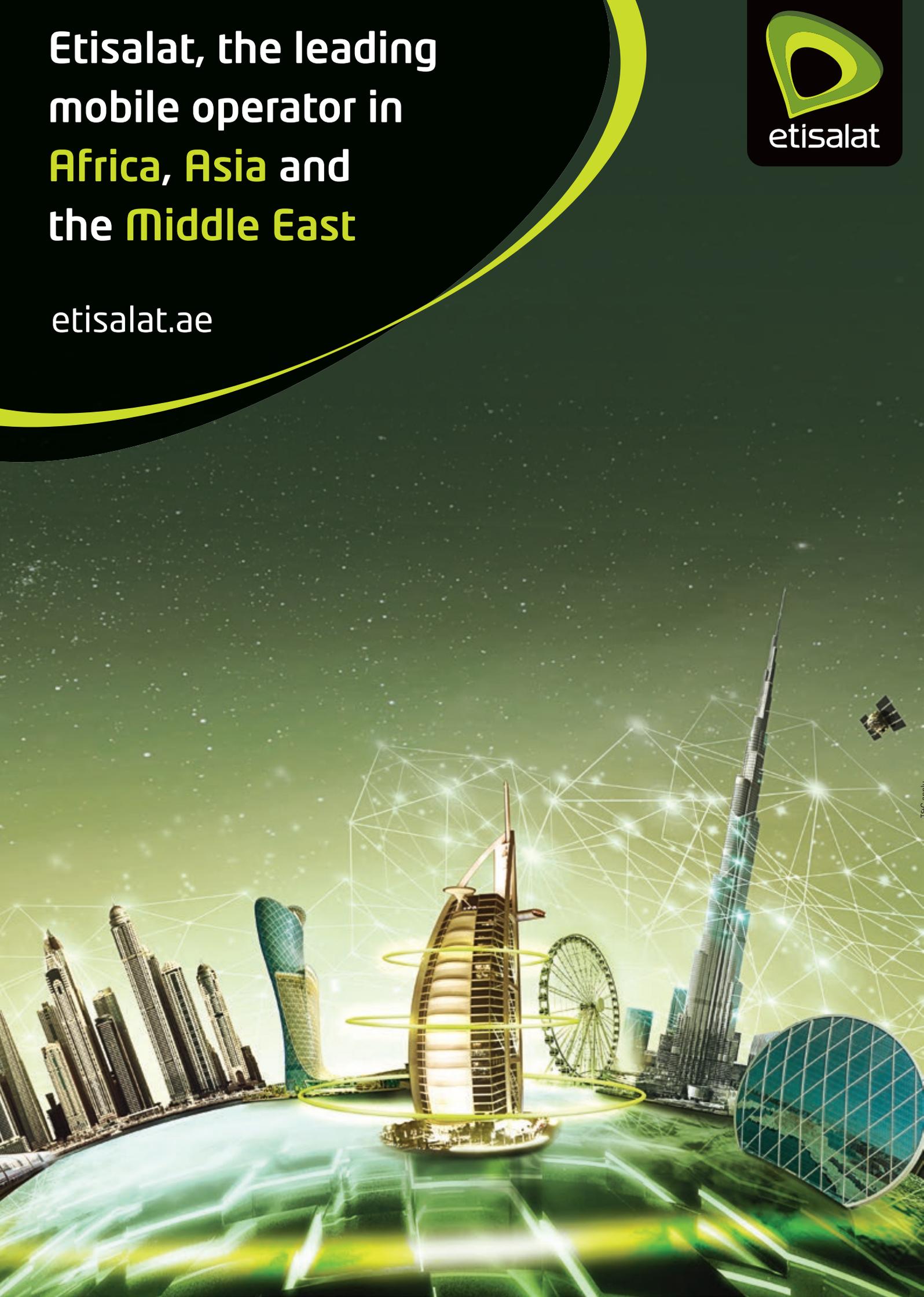
Most of Etisalat's footprint has turned the corner from liberalisation processes designed to open markets to new service providers and are now operating fiercely competitive markets. There is therefore a need for regulatory authorities to transition from the traditional ex-ante – before the event – regulation to ex-post rules-based competition frameworks. This transition is essential to maintain the efficient functioning of the market and to prevent market foreclosure. It is expected that many markets will either begin to develop competition capabilities and legal instruments, if not already available, or where already available, resolve jurisdictional confusions to allow this transition to happen.

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Etisalat, the leading
mobile operator in
Africa, Asia and
the **Middle East**

etisalat.ae



ACCELERATE YOUR CONNECTIVITY



Bridge between Europe and Asia. Middle East connectivity hub.

Strategically located, Oman is the hub linking Asia and Europe through the Middle East. Omantel is accelerating access to the fastest growing markets in the world by giving our partners the lowest latency connectivity so you can deliver your applications and services around the world with the highest possible performance.

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عمانتل
Omantel



Mr. Talal Said Marhoon Al Mamari
Chief Executive Officer
Oman Telecommunications
Company

عمانتل
Omantel

Our Contributions & Achievements in 2016

2016 was another successful year for Omantel that witnessed a very good growth across different areas. We achieved major milestones in our transformation journey, which was launched in 2015, giving us confidence that we are in the right path to reach our objectives.

As we seek to offer our customers unmatched experience, we expanded the footprint of our networks with a great focus on extending the reach of our fixed and mobile broadband services. Our combined broadband coverage has now reached 92% of the populated areas in the Sultanate mainly driven by 4G & 3G massive network rollout. We are proud that our 4G coverage exceeded by far the international benchmark reaching 86% of the populated areas. This network also received an international recognition and has been ranked among the top fastest 20 4G networks in the world.

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Another major milestone was the formation of a dedicated division focused on delivering Information Communication Technology (ICT) services to public and private sector clients across the Sultanate. Offering clients unmatched opportunity to access comprehensive technology solutions. This division aligns with Omantel's vision to bridge to digital divide, roll-out smart technology and launch innovative business and e-Government services. Therefore, accelerating Oman's ascension towards better ICT preparedness, global standings and diverse revenue streams.

We are proud of the local and international recognition that we received this year due to the outstanding performance of Omantel reinforcing our leadership of the telecom sector in the Sultanate and Omantel brand leadership across different business sectors as it has been always named as the Sultanate's most valuable brand.

How we see the industry in 2017

The industry is undergoing lots of changes, which require telecom operators to develop strategies and adopt business models to ensure sustainability of their businesses. Apart from this, the impact of the oil price is affecting consumer and enterprise spending behaviour. Even though telecom services are not the typical primary target of cost savings, it may still inhibit customers to upgrade or explore new telecom services. Changes in the regulatory framework also alter the competitive forces in the market. In addition to this, the continuous evolution of OTT (over-the-top) players in the domains of voice, messaging and content puts pressure on the capacity for telecom operators to continue their current levels of investment. Combined, these market dynamics will likely pose challenges for the growth opportunities for operators.

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On the other hand, the explosion of video services continues to be the key driver for a growing broadband market. 2016 already saw the global launch of Netflix and Omantel has launched its own IPTV solutions, further driving broadband speed and bandwidth demand, both for mobile and fixed services.

Through the execution of our "Omantel 3.0 – Leapfrog to Lead" strategy, Omantel is preparing to position to manage these market dynamics to sustain the growth. Our focus on maximizing the value per customer, through building new beyond the core services and ICT solutions will assure we are able to further grow our revenues. We continue to invest in our network to meet the increasing demand for data services and to enhance customer experience. Our Carrier of Carriers strategy as part of Wholesale proposition in the region enables us also to assure we provide the best connectivity to international players.



Mr. Hakam Kanafani
Chief Advisor & Board Member
Turk Telekom

Türk Telekom - The Largest Integrated Telecommunications Company in Turkey

Türk Telekom is the largest integrated telecommunications company in Turkey. The company adopted a "customer-oriented" integrated structure in order to respond to the rapidly changing communication and technological needs of customers in the most powerful and accurate way, merging the products and services of Türk Telekom, Avea and TTNET under a single roof. In January 2016, it began providing services under the Türk Telekom brand. Türk Telekom offers mobile, fixed voice, broadband and TV services as a "Quadruple Player of Turkey" at one-stop shop. The company has restructured its products and services in "Consumer" and "Corporate" business units with a customer-oriented approach. Besides reaching out to the most distant corners of Turkey with its widespread service network, Türk Telekom has a rich product range within the scope of its mobile, fixed voice, broadband and TV service. With the vision of introducing new technologies to Turkey and accelerating the transformation of Turkey into an information society, Türk Telekom provides services in all 81 of the country's provinces with its team of more than 32,769 employees. 55% of Türk Telekom shares belongs to Oger Telecommunications Inc., while 30% belongs to the Turkish Republic Prime Ministry Under secretariat of the Treasury. The remaining 15% share is public. Türk Telekom shares have been traded on Borsa İstanbul since May 2008.

Besides reaching out to the most distant corners of Turkey with its widespread service network, Türk Telekom has a rich product range within the scope of its mobile, fixed voice, broadband and TV service.





Dr. Nasser Marafih
Advisor to Chairman
Ooredoo Group



Our Contributions & Achievements in 2016

Ooredoo has evolved into a data experience leader, providing customers with the best Internet experience and helping more companies do business digitally. Our customer base grew by 16% to reach a total of almost 133 million and a rising proportion of our revenue – around 40 percent by the end of Q3 2016 – now comes from data services.

Some Ooredoo's the key achievements in the SAMENA region have been:

- We have started the 4G roll-out in Algeria and Tunisia, and now operate 4G network in 8 out of 10 of our operations.
- In Qatar, we have launched Category 9 LTE-Advanced standard, as well as the 1Gbps Fibre plan, along laying the foundations for a 5G network in the near future
- The expansion of our B2B offerings, such as multiple mobile, fixed, cloud hosting and Machine to Machine (M2M) products in Tunisia.
- In Oman, we have enhanced our 4G coverage and Fibre network in Indonesia, with a particular focus on providing a better business network.
- Becoming the first telecom operator to launch LTE-A and 4G+ in Kuwait, with our LTE network now covering 92% of the population.

Ooredoo's markets are still growing and we have successfully shifted our product mix from voice to data, positioning us to continue being a leading integrated-solution provider for all our customers.

How We See the Industry in 2017

Moving towards being a digital-first company requires Ooredoo – and all other operators – to better understand our customers and build our services and processes around their behaviors. Effectively, people want full self-service and self-care options, and these have to be built into every aspect of the customer experience.

Additionally, we need to recognise that the Internet of Things (IoT) is a working reality, and that industries are already transforming their production lines around IoT technology. That means we need to have the network flexibility and technological expertise to support this leap for our customers.

Ooredoo is already taking the lead in IoT services, building a cloud-based IoT platform that enables companies to access their IoT SIM network seamlessly across all markets, reducing costs and providing greater central control.

Technology doesn't change the world. People do.

We believe in people. We believe that they can achieve whatever they set their minds to. And by empowering our communities with superfast mobile data services, we want every one of our 118 million customers across the Middle East, North Africa and Southeast Asia to reach their full potential. We are passionate about growing the global digital economy, driving economic progress and supporting innovation.

ooredoo



We are committed to the United Nation's Sustainable Development Goals:

3

GOOD HEALTH



Ensure healthy lives and promote well-being for all at all ages.

5

GENDER EQUALITY



Achieve gender equality and empower all women and girls.

9

INNOVATION AND INFRASTRUCTURE



Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.



Mr. Jerome Henique
Chief Executive Officer
Orange, Jordan Telecom Group

Our Contributions & Achievements in 2016

In 2016 we were focused in improving Customer Experience in all touch points and offers. Being the leader of Internet Broadband in Jordan, we particularly enhanced customers' connectivity rolling out our Next Generation Networks, which are a new era of networks representing the future of connectivity, including LTE, Fiber-To-The-Home (FTTH), Fiber-To-The-Business (FTTB), and IMS (IP Multimedia Subsystem). Along with reaching 95% 4G/LTE coverage, we have also already deployed 6,000 kilometers of FTTB cable and are in process of installing more than 700 kilometers of FTTH cable by the end of year, collectively covering a large part of the Kingdom. Additionally, we were the first operator in the country to launch an IP Point-of-Presence (PoP) back in July, which boasts an impressive capacity of 60 Gbps as a starting point and guarantees an enhanced internet experience.

How We See the Industry in 2017

The future of the ICT industry in Jordan is one that is bright and promising, considering the high demand from Jordanian customers for data and multimedia services. This will require to keep a high level of investment from the operators which can only be achieved with the support of the government, by reducing the heavy burden of taxes supported by the telecom sector. On the other hand, the regulator should promote a fair competition environment and more freedom of choice for the consumer by implementing Mobile Number Portability which is still missing in Jordan.

We were the first operator in the country to launch an IP Point-of-Presence (PoP) back in July, which boasts an impressive capacity of 60 Gbps as a starting point and guarantees an enhanced internet experience.





Taking my connectivity to another level



Introducing internet game changers, Fiber and 4G from Orange, that are taking speed to a whole new level.



It's all about what matters to you



Mr. Kaan Terzioğlu
Chief Executive Officer
TurkCell



Our Contributions & Achievements in 2016

We wrapped up 2016 with a very successful performance both as Turkcell Turkey and as the broader Turkcell Group. Creating value for our shareholders, Turkcell Group announced 8.8% revenue growth and 33.3% EBITDA margin in the 3rd quarter. In our home country Turkey, we have experienced a major milestone as we introduced 4.5G on April 1st. Benefiting from the latest LTE technology, Turkcell built the strongest 4.5G network of the world and offers one of the fastest LTE experiences globally in Istanbul, Ankara and Izmir. Today, 25% of the data traffic on our network is on 4.5G. The average data consumption per user on all networks has increased by 59% to reach 2.6Gb. We have also accelerated our focus on Turkcell-powered OTT services. The demand for our mobile applications proves that our strategy of being an experience provider is the right path. BiP, which started of as an instant messaging app but now also includes voice and video call options, has reached more than 11 million users. Our music app fizy has been downloaded 7.5 million times, while our personal cloud app lifebox has reached 3.5 million downloads and Turkcell TV(plus) has been downloaded 2.5 million times. The success of all of these products contributed to our recent launch of lifecell as a data-only digital brand which serves the customer not with voice minutes and SMS's, but with Turkcell's mobile data and digital services. Another important milestone in our home country was of course the treacherous coup attempt of July 15th. I am proud to say that we were the first company to react aggressively against this attack on democracy. By defining emergency communication packages to our customers, we ensured that people had access to information in a timely manner and in real time.

How We See the Industry in 2017

Macroeconomic data and the global outlook from the end of 2016 suggest that 2017 is going to be a challenging year. There are signs of contraction in financial markets, however with our solid financial strategy Turkcell is well-positioned to limit the effects of the broader macroeconomic environment. More importantly, we do feel that we are up to rising to the challenge with our business success. Turkcell Turkey will continue to grow on the back of 4.5G. Data consumption, along with the use of mobile apps and services, will continue to increase in all of our Turkcell Group markets. When we look at our infrastructure investments, we observe that 95% of our investments are in the field of data. Therefore we can comfortably say that in the future, growth will come from data. We will continue to go beyond raw data consumption by analyzing data and turning it into services such as music, cloud and TV.

TURKCELL

THE GLOBAL POWER OF TURKEY



lifebox

fizy



TV+



Dergilik



MERHABA UMUT



TURKCELL

TURKCELL'LE BAĞLAN HAYATA



Eng. Salman Bin Abdul Aziz Al Badran
Chief Executive Officer
VIVA Telecom – Kuwait

Our Contributions & Achievements in 2016

VIVA continued to achieve growth in operating revenues and strengthen its leadership in the telecom market. It is noteworthy to mention that VIVA was awarded the “Best Contact Centre Experience” and “Best Network Experience” award by INSIGHTS Middle East, and was recently named the “Leading Corporate for Investor Relations in Kuwait” and “Business Innovation in Risk Management”, due to the hard work and the dedication of the management and employees and excellent recruitment process to hire experts and professionals, in addition to the highest professional standards in the process of communicating with our shareholders and the investment community.

How We See the Industry in 2017

Despite high competition in the telecom sector internationally and regionally due to the fast evolution to fit the future of the telecom technology and internet, we still believe that there are a lot of promising investment opportunities in this domain.

We rely on our future strategies and deep studies to reap the best returns for both, customers and shareholders.

Our four pillars and values at VIVA are Energetic, Transparent, Fulfilling and Engaging. Therefore, we endeavor at all aspects to serve our customers, fulfill their requirements and meet their expectations, by providing them with the up-to-date products and services that keep their experience with VIVA enjoyable, and in line with technological development and customer needs.

VIVA was awarded the “Best Contact Centre Experience” and “Best Network Experience” award by INSIGHTS Middle East, and was recently named the “Leading Corporate for Investor Relations in Kuwait” and “Business Innovation in Risk Management”



8 years of 'more' achievements

Driven by our commitment to bring you more, we at VIVA Kuwait, have continuously progressed since our inception 8 years ago, creating new milestones with every passing year. We continue to grow in leaps and bounds enabling you and your business to achieve success.

2011
Partnership with
Manchester United

2013
Best Wireless Broadband in
the SAMENA Region

2013
VIVA Wins the LTE
Advanced Award

2013
Signing of Sponsorship
Agreement with KFA

2014
Partnership with
Real Madrid

2014
Initial Public Offering

2015
Best Industry Call Center
Award from INSIGHTS - ME

2016
VIVA Wins Business Innovation
in Risk Management

2016
Leading Corporate for Investor
Relations in Kuwait by MEIRA

2016
First in Kuwait to Launch
VIVA IR APP Mobile App
for Investor Relations

2016
"Best Call Center" &
"Best Recruitment Program"

2015
Best Telecom Company 2015
by Arabian Business

2015
Best Medium Help Desk Award
from INSIGHTS - ME

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VIVA





THE ZAIN 2016 THOUGHT LEADERSHIP REPORT

BRINGING THE FUTURE CLOSER WITH INNOVATION.

PURSuing INNOVATION AS A MEANS
TO OVERCOME CHALLENGES IN THE
MENA REGION



Mr. Scott Gegenheimer
Chief Executive Officer
Zain Group



Our Contributions & Achievements in 2016

Zain has been known throughout our history as a company that is focusing on investing in innovation and our customers. We have been focusing on building the best networks, pushing the smart phone penetration to all of our customers, making sure we have the customer experience in heart of everything we do. This is the core of the Zain brand and it defines our vision and focus for the future.

I believe our effort to leverage technology to the benefit of our customers and our business has been one of our greatest accomplishments in 2016. Our investment in cutting edge technology has driven greater efficiencies, which is the name of the game, given the industry's efforts to maintain decent operational margins.

When it comes to Zain's mobile business we are very proud of the quality of the networks and data services provided by Zain. We have worked tirelessly to ensure that Zain customers get the unmatched quality of service from Zain.

We have been focusing on the network quality, since it drives the data experience of our customers, we are happy to see the impact on the increase on data usage. In key data centric markets such as Kuwait, Saudi Arabia, Bahrain and Jordan, data revenues represent in excess of 30% of these operations total revenues and we foresee robust and profitable data growth for all our other operations.

Our focus on efficiency and data monetization has contributed to an impressive 49.2% EBITDA margin that we recorded for the 3rd quarter of 2016 and we are very proud of it.

Several other highlights include Zain Saudi Arabia's mobile operating license being extended for an additional 15 years, which effectively reduces the annual amortization by \$115 million and bolsters the future sustainability and growth of the operation.

On new digital services front, the ZDFI team has been active with more than 400 new innovative ideas and opportunities being examined and the most appealing of them either implemented by Zain across its operations or in the final stages of negotiation.

In Iraq, we recently announced the launch of the country's first fully convergent billing system, which will see customers in that market enjoying a wider range of services at attractive price points. Although in Iraq we have challenges given the ongoing social conflict there, we are hopeful and confident that the operation will be a shining star in our portfolio once the internal issues are resolved there.

In Kuwait our operation continues to cement its market leadership and increase its customer base due to the attractiveness of its 4G network and distinct product offerings for the data savvy community. With the launch of 4G services in Jordan and Sudan earlier this year, we expect exponential growth in data services in both markets and will continue to invest in expansion of their networks. Also in Jordan in line with our Corporate Sustainability activities we partnered Facebook and the UNHCR to roll out Wi-Fi for refugees in the Kingdom.

On new digital services front, the ZDFI team has been active with more than 400 new innovative ideas and opportunities being examined and the most appealing of them either implemented by Zain across its operations or in the final stages of negotiation.

Successful forays to date include the strategic investments in smart city firm, neXgen and mobility solutions developer and consultancy firm FOO; investments in four venture capital firms MEVP, EarlyBird, and Wamda and Colle Partners Capital; the award-winning Group-wide partnership deal with Uber; the partnership with global games provider Zeptolab – Cut the Rope game and the partnership with Booking.com. We have also been a key partner of the MIT Pan Arab Start Up Competition for the past two years and most recently extended this partnership to include the global MIT Innovate for Refugees competition.

Personally, I'm honoured and proud to being appointed to the GSMA Board for 2017 /2018 and also as an ITU/UNESCO Broadband Commissioner as well as joining the SAMENA Council Board.

How We See the Industry in 2017

We expect the year ahead to continue to witness intense competition in the markets in which we operate. On our part, we shall be focusing on the following areas: Investment in innovation in the digital space; Partnerships with leading application and OTT/digital providers in order to deliver the richest content to our data customer; and monetizing our data networks further.

From our perspective, we see more opportunities than challenges with respect to the adoption of digitization and smart city solutions in the Middle East. As a nascent area, new learning will be required regarding the most efficient and effective business models, and the best ways to monetize applications and services overall, but overall, we believe that digitization will continue to catalyze and fuel numerous growth opportunities.

In early 2016 we made a strategic investment in neXgen to establish a new dedicated smart city and managed services unit that creates value for both entities, as it combines Zain's capital strength and expertise as a digital communications provider with neXgen's competence in smart city technology and services.

We believe that at the essence of smart city developments is connectivity, which is also the core business of the telco industry, and together with neXgen we are confident in leveraging our own vast experience in this area within the smart city environment, to all stakeholders' benefit.

Today neXgen is at the forefront of smart city expertise and thought leadership across the region. Through this partnership, we are confident in our ability to deliver unique offerings that address the growing demand in the market for smart city solutions and managed services. This business unit is set to unlock many lucrative opportunities in the connected society revolution, placing both Zain and neXgen as leaders in this space. Together the focus will include design and integration for applications including smart living in city districts, smart safety and security, smart education and health, and smart metering for the utility sector among others.

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We believe that the power of mobile internet is a driving factor to unlocking the potential of how people live their lives and transforming how they conduct their business. This is driven by the confluence of Smart Technologies and Services, the Internet of Things, the power of data, and smart city developments which will enhance the lives of millions of people across the region.

We have already identified substantial incremental revenue opportunities from the investment in smart city deployments in the Gulf, as well as from M2M services to enterprise and government sectors across the region.

MEMBERS NEWS



Strategic Partnership Between STC & Massachusetts Institute of Technology



STC Business signed a strategic agreement with Senseable City Laboratory “Massachusetts Institute of Technology (MIT)” as a part of STC business plan to expand and develop telecommunication services and information technology. This agreement allows both parties to cooperate and exchange researches and innovation in the information technology field.



Batelco Awarded ‘Fastest Growing Service Provider Partner of the Year’ Title at Avaya ENGAGE

Batelco, Bahrain’s leading digital solutions provider has been awarded as the Fastest Growing Service Provider Partner of the Year at the Avaya ENGAGE event, held December 6th in Dubai, United Arab Emirates. Batelco Bahrain CEO Eng. Muna Al Hashemi said that Batelco is delighted and honored to gain this great award from Avaya. “This achievement would not have been possible without the diligent efforts of many teams at Batelco who continue to prioritize the requirements of our business customers,” she said. Earlier this year Batelco was awarded Platinum Certified Partner status by Avaya in recognition of the Company’s commitment, investment, experience and dedication to customer satisfaction. Batelco has an ongoing commitment in providing the best-in-class solutions for its customers to support their efforts to grow and optimize their businesses. The highlight of Avaya ENGAGE, a four-day forum hosted at the Atlantis the Palm hotel in Dubai, the Avaya Awards celebrate the



role the company's partners have played in driving Avaya's success across the combined geographies of Europe, Middle East & Africa and the Asia-Pacific region. As customers' needs and challenges evolve, Avaya's partners are central to its strategy of delivering services-led, outcome-focused engagement. More than 1300 customers and partners from across the combined regions interacted with Avaya global executives, solutions leaders and industry experts at keynote addresses, seminars and expert sessions at the event. AVAYA International Channel

Leader Fadi Moubarak said, "The Avaya Awards celebrate and recognize the role our partners play in driving Avaya's growth and customer-centric strategy. We are investing and developing our partner ecosystem to enable more companies to implement business communications solutions that help drive their digital transformation journeys. Avaya ENGAGE provides the perfect platform for us to drive innovation and deliver industry leadership across the combined regions." Batelco is a major ICT vendor in the region and is the

largest partner of Avaya in Bahrain. The attainment of this award and some of the highest regional and international certifications from Avaya is a direct result of the company's significant investments in the latest telecommunications and ICT technologies that ensure its customers are among the first to enjoy the benefits of such technologies. Batelco designs, engineers and implements Avaya telecommunication systems for businesses and government entities across Bahrain.



Zain Group Makes Strategic Investment in US Based Colle Capital Partners Venture Fund

Zain Group has made a strategic investment in Colle Capital Partners, (www.collecapital.com) a global, opportunistic, early stage technology venture fund based in New York, with presence in San Francisco. Colle Capital Partners has a diversified technology focus with an emphasis on data in the following sectors: Energy, Media, Telecommunications, Health IT, Security, and Software Development. The fund's managers have access to unique, high quality investment opportunities and the fund was oversubscribed. Its Managing Partner - Victoria Grace – is a professional venture investor with a successful track record of over a decade. Zain's investment in Colle Capital Partners forms part of its Zain Digital Frontier and Innovation (ZDFI) business unit strategy, which was established in 2014, and charged with launching Zain into the digital space with the view to growing the company through new innovative business streams, which add to its financial viability and market capitalization. The investment in Colle Capital Partners also extends the geographic range of Zain's potential partner entities to the United States, taking them beyond the Middle East and Eastern Europe where the company's current investment ventures have their pool of influence. Zain's strategy to participate at an early stage in the lifecycle of a company and help the team to achieve its commercial goals by supporting its early-stage development drove its interest in Colle Capital Partners. Commenting on



Zain's latest strategic investment, Group CEO, Scott Gegenheimer said, "We are delighted to add Colle Capital Partners to MEVP, Wamda and EarlyBird as early stage investment companies we have made investments in, with this fund being particularly nimble and highly selective. We are keen to extend our reach to the US as we are well aware of that market's innovation and hi-tech credentials, and we believe ideas and solutions from that geography will drive real-life digital applications and create new revenue streams in our region." Victoria Grace, Founder and Managing Partner of Colle Capital Partners said, "We are thrilled to be partnering with Zain in our efforts. We aim to bring to our portfolio companies not just capital but also access to forward thinking, strategic partners that will create significant synergies for our companies beyond US borders.

We are already engaged with Zain on a number of efforts and view this as a win-win partnership." Emre Gurkan, Chief Strategy & Business Development Officer of Zain Group said, "Mobile operators must innovate to remain relevant and the exploration of new opportunities to differentiate ourselves is vital to our future prosperity. At Zain, we have taken a pro-active step to cooperate with a broad range of partners that we believe share our vision of digital transformation. The inclusion of Colle Capital Partners into our growing eco-system of partners will add value to our progress in this area for the benefit of our customers and other stakeholders." Boosted by this latest investment, ZDFI will continue to focus on the areas of innovation; digital services; corporate venturing; and smart cities, with the ultimate aim of Zain becoming a regional innovation trendsetter.

Zain Wins 'Best Brand' Title at Telecom Review Excellence Awards



Zain Group, a leading mobile telecom innovator in eight markets across the Middle East and Africa, is proud to announce that its brand has been identified as the 'Best Brand' for telecom in the Middle East for 2016 at the gala ceremony of the Telecom Review Summit Excellence Awards held in Dubai on December 13, 2016. Telecom Review is a leading industry publication and the award recognizes the outstanding performance of Zain's brand across all its markets, which has come to represent the highest standard of customer service at all its touch points. Winners were chosen based on recognized and demonstrated capabilities in their specific sector by an independent panel of 15 experienced industry veterans. Zain has been a recipient of the 'Best Brand' accolade at other regional events in the past, confirming the brand's success in inspiring hope and delivering happiness

since its inception in 2007. The success at the Telecom Review Awards has been driven by the tangible developments occurring within the company, reflected by its brand, which is representative of the continual investment in network upgrades that the operator is making. Zain's technology innovation is also positively impacting customer experience, reinforcing the company's brand values and making it one of the most respected and recognized corporate brands in the Middle East. Commenting on the award of the latest accolade, Zain Group CEO Scott Gegenheimer said, "We are proud to be recognized once again as a leading brand in the region and continue to adapt ourselves in ensuring the brand brings out the best in us and makes us strive to offer the best customer experience possible, as our loyal customers deserve no less." Zain is an ardent supporter of continual innovation and forging strong

partnerships, and its relationship with other well-regarded brands such as Uber and Booking.com, for example, have led to the reinforcement of the Zain brand itself. Zain also made strategic investments in smart city consulting firm, neXgen and mobility solutions developer and consultancy firm FOO to fast-track its digital lifestyle offerings. The company's marketing campaigns across the region on various media channels have captured the hearts and minds of millions of people across the Arab World and afar. Most recently, Zain's Ramadan 2016 TVC had a remarkable 10 million views on YouTube, in a space of only 30 days, with the company's Ramadan EID 2016 TVC also attaining 18 million views to date, both relevant and indicative factors of the brand power of Zain! Today, Zain Group and its local operations now boast more than 8 million fans on Facebook, more than 4.5 million followers on Twitter, and nearly one million on Instagram. Over the past 4 years, Zain Group's and operations' numerous YouTube channels across the region have had in excess of 100 million views. Sustainability, transparency and thought-leadership are at the very core of Zain's business and this is reflected in every aspect of the company's day-to-day operational activities. Zain's annual Sustainability Report highlights the company's continued hold of its regional leadership position in pursuing its sustainability agenda and supporting its communities through outreach activities such as capacity-building, education, socio-economic development, and environmental stewardship. In addition, with a focus on supporting the entrepreneurial start-up ecosystem, Zain partnered with the MIT Pan Arab Start Up Competition for the past two years and most recently supported the global MIT Innovate for Refugees competition.

Zain Appoints New CEO for Saudi Arabia Operations, Effective January 1, 2017

Zain Saudi Arabia announces the appointment of telecom stalwart Peter Kaliaropoulos as CEO of Zain Saudi Arabia (Zain KSA), effective January 1, 2017. Peter joins the company to

continue the healthy foundation of transformation and growth achieved over the past three years by Hassan Kabbani, who has decided to step down from his post for personal reasons, effective 31st

December 2016. An Australian national, Mr. Kaliaropoulos joins Zain Saudi Arabia as a highly-accomplished telecom professional having enjoyed over 30 years of experience in the international

ICT sector, and playing a key role in the transformation and growth of a number of companies operating across the Asia-Pacific and Middle East regions. In his most recent role, Mr. Kaliaropoulos was the GM of 'touch' Lebanon until June 2016, the country's leading operator that Zain manages on behalf of the Lebanon Telecom Ministry and then took on the role as an advisor to the 'touch' Chairman and Vice Chairman of Zain Group, Mr. Bader Al Kharafi. In his varied roles over the years, Mr. Kaliaropoulos has been responsible for driving customer-centric operating cultures, optimization of productivity levels and implementing growth strategies. He has also served as a Director on the Board of various technology and telecommunication companies in Singapore, India, USA, Australia, New Zealand and the Middle East. His Highness Prince Naif bin Sultan bin Mohammed bin Saud Al Kabeer, Chairman of the Board of Directors of Zain Saudi Arabia said, "Peter Kaliaropoulos joins Zain Saudi Arabia at an important stage of the company's evolution and we have the utmost confidence he has the right leadership qualities to take the operation to next phase of growth, building upon the many achievements accomplished by Hassan Kabbani during his tenure." HH the Chairman noted, "In recent years Zain Saudi Arabia has witnessed many highlights, notably the Company's recent High Order granting of a 15 year license extension as well as a universal license to provide all telecommunication services, including fixed services. The High Order also granted Zain Saudi Arabia the opportunity to coordinate with the Ministry of Finance to discuss alternatives regarding the amounts due to the government. In addition, the reduction by the CITC to reduce Mobile Termination Rates (MTRs) will all support the financial and future prosperity of the company." Furthermore



HH the Chairman added, "The company's transformation plan and continuous investment in 4G LTE network upgrades and expansion combined with numerous data monetization initiatives has resulted in the recording of impressive revenue growth and being EBITDA positive." HH the Chairman concluded by saying, "I am confident that Zain Saudi Arabia will enter a new and prosperous era, playing a key role in the growth of the telecommunications sector and the economic and social development of the Kingdom. As the country evolves, we have an important role to play in the transformation of the Kingdom towards a digitally enabled and diversified economy. On behalf of the Board of Directors I would like to thank Mr. Kabbani for his

success in managing the transformation of Zain Saudi Arabia. We all wish him well in his future endeavors." Scott Gegenheimer, CEO of Zain Group noted, "I would also like to express my profound gratitude to Hassan Kabbani's efforts in the successful transformation of Zain Saudi Arabia over the past three years, fulfilling the mission that was set when he joined. With Peter Kaliaropoulos' vast and impressive experience in technology and management over the past 30 years, and the compelling support of Zain Group's resources in all facets of the business, we are confident that he will build on the solid foundations laid by his predecessor and will bring new innovation and take full advantage of the digital growth opportunities in the Kingdom."

Zain, Ericsson Collaborate on 5G Research and Development

Zain Group and Swedish equipment vendor Ericsson have entered into a 5G research and development agreement, which will allow the two partners to evaluate performance and applicability of potential 5G key technology components. The collaboration aims to develop

new 5G use cases, requirements and deployment scenarios, thus paving the way for 5G deployment in the Middle East supporting Zain's transformation towards digitization. Zain Group's CTO Hisham Allam said: 'As a leading 4G operator, we are always working to ensure that we are

first to market with new innovations for our customers. Working with Ericsson will enable us to gain additional insights into our customer market and potential growth areas supporting our vision of being a digital lifestyle operator.'



Nokia and Ooredoo Qatar Demonstrate 4.5G Pro Technology Achieving 1 Gbps Throughput Speeds

Nokia and Ooredoo Qatar have achieved speeds of up to 1 Gbps in a demonstration application of 4.5G Pro technology using Nokia's three-carrier aggregation technique, 256 QAM (Quadrature Amplitude Modulation) and 4x4 Multiple Input and Multiple Output (MIMO) with Nokia's 5G-ready AirScale radio platform. The demonstration took place in Ooredoo's headquarters, HQ2, in Doha. The milestone heralds the commercial launch, early next year, of 1 Gbps speed for Cat. 16* (category 16) capable devices, making the 'Best Operator Network' in the Middle East even faster and better equipped to meet surging consumer data demand. Currently, the network provides speeds close to 500 Mbps with three-carrier aggregation and 256 QAM. Applying the key techniques of multi-band carrier aggregation, higher order modulation and higher MIMO, Nokia has enabled Ooredoo to maximize user data rates and network capacity on its existing base station sites and spectrum allocations. On the Ooredoo

Supernet, Ooredoo has already enhanced three-carrier carrier aggregation with 256 QAM to deliver data rates close to 500 Mbps for Cat. 11 user devices. With speed driving many innovations in telecommunications, Ooredoo Qatar has been densifying, upgrading, and optimizing its network under the Supernet initiative to provide ultra-high speed services and superior customer experience to its subscribers nationwide. The successful joint demonstration of 4.5G Pro technology by Ooredoo and Nokia is part of this initiative. Nokia has been innovating to achieve higher and higher speeds, announcing 4.5G Pro and 4.9G in September as part of a technology path to 5G, enabling leading operators such as Ooredoo Qatar to take advantage of major increases in speed and capacity where and when they need it using these technologies. Waleed Al Sayed, Chief Executive Officer, Ooredoo Qatar, said: "We launched the Ooredoo Supernet initiative to provide the best possible broadband experience for our customers,

and we live up to our commitments. Our long-term strategic partner, Nokia, is supporting Ooredoo Qatar with its innovative solutions to enable higher speeds and superior performance on our 3G, 4G and 4.5G Pro networks. The current joint achievement is a milestone, and puts us on the evolutionary path toward launching 5G networks in the future." Bernard Najm, head of the Middle East Market Unit at Nokia, said: "We are committed to supporting the Ooredoo Supernet initiative with our latest technology innovations. Use of three-carrier component aggregation with 4x4 MIMO and 256 QAM is the perfect solution for Ooredoo as it looks to optimize the network performance with the available spectrum. This year Ooredoo Qatar and Nokia already commercially launched Cat 11 with speeds close to 500 Mbps, and through this current demonstration, we are preparing the network to launch up to 1 Gbps speed."

Ooredoo Launches Direct Carrier Billing with Google

Ooredoo announced the launch of direct carrier billing service with Google, to make it easier for Android users to purchase apps, games, and digital content on their devices. With the introduction of Direct Carrier Billing with Google, customers can now perform any online purchase transaction through the Google Play Store by paying for their purchases via their mobile phone balance without the need of using their credit cards. Direct Carrier Billing allows users of select mobile operators to pay for digital content on Google Play by billing purchases to their mobile accounts; postpaid or prepaid. Once the payment option is set up, customers will be able to charge app and content purchases from the Play Store directly to their mobile accounts. Sharing

further details of the exciting new service, Ooredoo's Director of Digital Marketing & New Business, Prince Thomas, explained: "Removing the need to share personal details online, Direct Carrier Billing, or 'Pay by Ooredoo' is a safe and secure method for making digital transactions on mobile devices. What's more, thanks to this new facility, customers who do not have a credit card will soon be able to shop the fantastic selection available in the Google Play Store, allowing them to keep up with the latest online trends in entertainment, education, lifestyle and business." Thomas added: "We are delighted to be the first to bring Direct Carrier Billing to Google Play for customers in Oman, giving them access to a wide variety of services. With 'Pay by Ooredoo', customers can

make in-app purchases and as well buy paid apps by simply using their mobile phone credit." The Google Play store is the official application store for Android Smartphones and tablets. Google makes software applications, music, movies and books available for purchase and download through the store. The Google Play store, which comes pre-installed on Android devices, allows users to purchase, download and install applications from Google and third-party developers. To find out more about 'Pay by Ooredoo', go to www.ooredoo.om, contact the Ooredoo Contact Centre on 1500, or enquire in any of the 41 Ooredoo stores located across the Sultanate.



du Launches Secure Web Hosting to Help Businesses Combat Cyber Attacks

Today, there are over three billion global internet users – 40% of the world's population – driving growth in digital service, support and sales interactions that require businesses to host their web-based services in a secure environment to ensure high level of confidentiality, integrity and availability. Hosted in the UAE, Secure Web Hosting solution from du integrates innovative layers of security that work in tandem to deliver a unique and holistic approach to protect an organization's web services from cybersecurity threats. It was purpose-built to ensure business continuity by maximizing security, availability and performance. "In today's digital era, a secure web presence is critical to the success of any organization. As global security threats continue to grow, we developed Secure Web Hosting to provide government institutions and large enterprises an efficient and effective way to secure their web presence. It minimizes risks from cyberattack and enables organizations in the UAE to effectively protect their profits, customer experience

and reputation," said Fahad AlHassawi, Chief Commercial Officer at du. Secure Web Hosting guards enterprises against cyber security attacks with a proactive approach to security. All websites are analyzed and put through rigorous penetration testing. Security policies are customized to ensure it serves the specific needs of an organization as well as its security objectives. Positioned among the most comprehensive web security solution within the Middle East, Secure Web Hosting from du is an award winning platform that offers organizations a reliable and seamless managed service for securing their web services and ensuring business continuity. Customers that use du's Secure Web Hosting benefit from a comprehensive custom solution, unique within the UAE market. With seven security layers monitored and managed 24x7 by du enterprise SOC (Security Operations Centre), customers face reduced risks in security breach and threats to business continuity.



goetzpartners Moderated the Leaders' Panel at the 2016 Telecom Review Summit in Dubai

Leading advisory company goetzpartners was present at the Telecom Summit Review in Dubai on December 13, 2016. Erik Almqvist, who leads the goetzpartners Middle East team, moderated the Leaders' Panel at the event. The Leaders' Panel explored wide-ranging topics that include the opportunities of digital transformation for telecoms operators, IoT services and mobility: all issues where goetzpartners has a proven record in projects worldwide. Summit Telecom Review 2016: "It's all about Smart Networking" As one of the most important events of its kind in the Middle East region, the conference certainly lived up to its slogan: "It's all about Smart Networking". The 2016 event marks the seventh year of the annual summit, which brings people together to debate and hear

about developments in the regional and worldwide telecommunications industry. The participants – over 380 people attended last year – are drawn from across the industry, and include vendors, operators, content and solution providers, government and NGO representatives. Visitors are also highly international: last year 24 countries were represented. With a busy agenda awaiting participants, the focus this year was on leveraging smart technology in the digital era. There were panels on smart city infrastructure and its impact on the economy, the challenges of data growth (notably concerning security) and on how mobility is changing the concept of media and broadcasting. The panel led by Erik Almqvist brought together telecommunications leaders in a broad debate that touched on the key

topics of the day: the impact of digital transformation on the telecoms industry; how mobility is transforming the customer experience; the role of the Internet of Things (IoT) in telecommunications, and what the potential revenue streams would look like. Commenting on the importance of the event, goetzpartners Middle East MD Erik Almqvist says, "The telecom leaders present highlighted the regional opportunities of IoT, Smart Cities and 5G, whilst underlining challenges and opportunities of successful digital transformations, a strategic necessity to stay competitive, and outlined likely scenarios for network sharing and possible regional consolidation. Overall it was a vibrant and illuminative panel debate."



Sudatel Group Announces Consolidated Results for 3Q-2016

Sudatel, a leading telecom group operator in Sudan and West Africa, is announcing its financial results for the third quarter of 2016. The Group has achieved a record consolidated revenue of US\$ 124.23 million up 11% compared to the same period last year, and consolidated EBITDA of US\$ 47.92 million up 21% compared to 2015. Performance during the nine months' period ending September 2016 has been consistent with the positive trend the company witnessed since the beginning of the financial year, outperforming both the previous quarter and the same quarter of the previous year. Sudatel customer base has also increased by a record 7% reaching over 11.9 million subscribers compared to the same period in 2015. Commenting on the results, Chairman of the Board of Directors of Sudatel Group, Dr. Abdelrahman Dirar said: "We are very happy with the results achieved in the third quarter of 2016 and we are confident that the Group's successful performance

growth will continue to achieve solid financial gains for our shareholders and investors." Sudatel Group CEO, Tarig Hamza Zainelabdin noted, "Sudatel continues to witness strong growth across the markets in which it operates and we are confident that we will outperform our growth pace over the coming period. The company is constantly working on enhancing its services and performance in order to maximize on net revenues and profits for the company and its shareholders." The success in Sudatel's Q3 results is attributed to the many successes its subsidiaries have accomplished across Africa. Sudani added 126 new sites compared with 20 sites 2015 and achieved double digit increase in revenues in USD (18%). Mobile data revenues also increased by 40% whereby corporate sales increased revenues by 60%. Sudani also launched Mobile Money (Gorooshi), a new first in Sudan. Espresso Senegal expanded its retail outreach adding new franchise

and e-Shop channels. The company also introduced new product and services that caters to the entire spectrum of the market while focusing on customer value development where its smart pricing and data adoption resulted in strong revenue growth. Chinguitel Mauritania increased its network coverage by adding 88 GSM sites & 80 3G sites which helped expand its network by 1.5 million subscribers (1 M GSM / 0.5 M CDMA). The company also modernized the network in Nouakchott city and added new VAS Platforms helping increase the customer base by 127,000 subscribers. Intercel Guinea has significantly worked on enhancing its operation by increasing network availability from 10% to almost 80%. The company has also rolled out a number of new offers and revised its tariffs while continuously working on enhancing and revamping all its operational processes to ensure offering an exceptional service to its customers.

Sudatel Telecom Group Organizes Regional Forum on Use of ICTs for Transition to Smart and Sustainable Development

Sudatel Telecom Group, through its training body SUDACAD (Sudatel Telecom Academy), in collaboration with the ITU, organized in Khartoum from December 12-13, a Regional Forum on Use of ICTs for Transition to Smart and Sustainable Development. The overall objective of this Forum was to raise awareness on the role of ICT as a tool and an enabler for three key pillars of sustainable development (economic development, social inclusion and environmental protection) and as a key catalyst for achieving the Sustainable Development Goals (SDGs). The Forum also focused on ICT role in creating a sustainable world, green sustainable resource efficient economy, e-waste, smartest sustainable cities and environmental protection. And also ICT as efficient mechanism for climate change, disaster management, prevention and early warning to help save lives and reduce the devastating effects of the changing climate. The Forum was

attended by more than 80 participants from Sudan and other countries. The forum officially opened by Mr. Hassabo Mohamed Abdelrahman, Vice President of the Republic Of Sudan. In his opening speech, he thanked the ITU and SUDATEL for organizing this important forum that lead to a proper use of ICT towards a real development and he assured the full support of Sudan Government to the Forum outcomes. Dr Tahani Abd Allah Attia, Minister, Ministry of Communication and Information Technology, in her feature address welcomed delegates and provided a synopsis of Sudan development in the sector. She also focused on the importance of ICTs for sustainable development. In his opening speech, Dr. Cosmas Zavazava, Chief Project and Knowledge Management Dept ITU-BDT, gave a brief about the cooperation context between ITU and SUDATEL. He focused on the main objective of the forum to raise awareness

on use of ICT for SDGs implementations. Dr. Ahmed Awad Elsayed, the DG of Sudacad, pointed out that Sudatel role in building the ICT infrastructure in Sudan is crucial. He mentioned that SUDACAD as a centre of excellence for the ITU in the Arab region is so proud to be a partner of this forum that reflects the quality of mutual collaboration between the two institutions. The closing session was addressed by Eng. Ibrahim Mahmoud Hamid, Assistant to the President of Sudan, who welcomed the ITU for organization such a forum in Sudan. He declared that the official authorities will fully support the outcomes of this event in order to become a reality. In his speech, Eng. Tarig Hamza Zeinalabdin, CEO of Sudatel, urged for a special attention from the ITU, as an international body, in order to ease the burden against the ICT sector in Sudan in light of the US sanctions that hindered the country.



Double Win for PCCW Global at World Communications Awards

PCCW Global, the international operating division of HKT, Hong Kong's premier telecommunications service provider, won the Users' Choice Award and the Innovation Award: Operator for its excellence in customer service and innovation at the World Communications Awards held on November 29 in London. The Users' Choice Award, which recognizes excellence in customer care in business services, is particularly rewarding and is different from other award categories as entries are not judged by a panel. Instead the winner is decided based on extensive end user research carried out among companies in over 30 countries and more than 1,000 respondents participated. The winner is the service provider that received the highest customer satisfaction index (CSI) score, which is generated based on an assessment of the survey responses to questions regarding levels of satisfaction with the product, value for money, and the level of customer support they received from their service provider over a 12-month period. Ms. Janet Watkin, Chief Executive Officer of Ocean82 who conducted the research, commented, "PCCW Global won the hearts and minds of users due to the high level of positive customer experience reported compared to rivals. It appears that the consistency of performance across continents, including Africa, gave it the competitive edge. PCCW Global goes the extra mile in

managing and supporting relationships." 'GlobalView', PCCW Global's multi-award winning real-time, cloud-based, reporting tool for international roaming services, won the accolade of the Innovation Award : Operator for applying big data technology that allows mobile operators to better manage their understanding of roaming customers. The tools available in GlobalView allow operators to see different levels of data and can even assist in the design of targeted marketing plans, in addition to providing proactive support and improving the use of international services. The judging panel were also impressed at how GlobalView demonstrated excellent, real-world examples of how mobile network operators can, and should, use big data to underpin innovative new services to provide a wealth of useful performance data associated with roaming subscribers. A judge commented, "With GlobalView, PCCW Global goes beyond transporting traffic to delivering significant added value, ensuring roaming partnerships are optimized and subscribers benefit from a committed level of quality while travelling." Mr. Marc Halbfinger, Chief Executive Officer of PCCW Global, said of the two awards, "These awards recognize the breadth and depth of our offerings and highlight an outstanding year for growth and innovation in the ICT industry. Together with our customers and partners, we

strive to create a global telecoms market that is more dynamic, diverse and ready to serve high-performance applications by delivering new services and technologies that help meet the needs of constantly new end user demand. The team is very proud to be recognized for their work." PCCW Global is particularly proud of the recognition that these latest innovations have received, as they form part of an ongoing programme of strategic development aimed at continuously enhancing its ability to deliver digital solutions globally whilst retaining all-out passion for service excellence. The integration of real time communication services is helping businesses of all sizes adapt quickly to the many changes taking place in what has become a very fast-paced and mobile-centric world. Ms. Ronnie Klingner, PCCW Global's President of Mobility, Security and Digital Solutions, said, "We are delighted that our efforts and innovation have been recognized. To receive such high profile recognition for GlobalView is testimony to excellent teamwork at PCCW Global. We are now able to offer MNOs the opportunity to look at international roaming transactions from a business awareness perspective, which delivers added value as operators are now able to ensure that service connectivity with their roaming counterparts is maintained with quality wherever a subscriber may be."



Microsoft Partners Qualcomm to Bring Mobile Data to PCs

Microsoft has announced plans to make Windows PCs more like mobile phones, using eSIMs to offer connectivity from any computer. Customers will be able to buy data directly from the Windows Store. To make the new devices possible, Microsoft is opening up Windows 10 to ARM architecture for the first time, through a partnership with Qualcomm. Hardware partners will be able to build a range of new Qualcomm Snapdragon-powered Windows 10 PCs that run x86 Win32 and universal Windows apps, including

Adobe Photoshop, Microsoft Office and Windows games. The new devices are expected to be in market as early as next year. The new venture was announced at Microsoft's hardware conference in Shenzhen, where it also outlined plans with Intel for the next generation of Windows computers, called 'Project Evo'. Planned features include far-field speech controls, so users can ask Cortana a question from across the room, advances in biometric authentication with Windows Hello, more affordable PCs and headsets to

support virtual reality, and support for 4K, HDR, WCG and spatial audio in gaming. Microsoft also announced plans to bring its HoloLens to China in the first half of next year, pending government approval. In addition, it's partnered with Chinese developer 3Glasses to bring the Windows 10 experience to their S1 VR headset in the first half of 2017. 3Glasses already has more than 5 million monthly active customers in China.



Turk Telekom International Appoints Toros as CEO

Turk Telekom International has appointed Mehmet C. Toros as its new CEO, replacing Cengiz Oztelcan who has left after four years. Toros has been with the carrier since 2003, and brings more than 28 years of telecoms experience to the role. His most recent position was as VP of Turk Telekom, overseeing sectoral relations and project management, a position he had held since 2012. He has previous experience of the Turkish operator's wholesale unit, having served as VP of international and wholesale from 2007 until 2012. He was also managing director of the space segment's marketing and sales, including satellite networks and spacecraft operations. He replaces Oztelcan, who has left to pursue other interests. Turk Telekom international said: "After 4 years of fulfilling the CEO position at Turk Telekom International (TTI) Group Companies Cengiz Oztelcan decided pursue other interests. "During his leadership TTI extended its geographical reach and successfully



participated in multiple consortium projects to widen the company's service portfolio. "Turk Telekom International is pleased to announce the appointment of Mehemt C. Toros as the new CEO effective

immediately. He has extensive knowledge in leadership, sales and management of data and voice telecommunication services & products nationwide in Turkey, and internationally."



UAE-IX peering Workshop and Peering Cruise



Customers and interested networks met in Dubai for the UAE-IX Peering Workshop and Peering Cruise. "This was another fabulous UAE-IX event," said DE-CIX's Head of Strategic Development, Ivo Ivanov. "The combination of peering knowledge transfer and the business networking was ideal for our target audience," Ivanov added. 75 customers, partners and prospects attended. The sessions in the Westin Mina were followed by a cruise on the coast of Dubai.

Presentations included:

- Update on the UAE-IX development - Ivo Ivanov (DE-CIX)
- Status of Interconnection in UAE - Hisham Ibrahim - RIPE
- Scalable Interconnection - Seth Benneth - Facebook



Huawei Unveils Shared Spectrum Breakthrough

Huawei has unveiled a mobile spectrum management solution that could open up new possibilities for the dynamic and efficient sharing of valuable capacity. During a presentation at the company's Mobile Broadband Forum event near Tokyo, Edward Deng, president of Huawei's Wireless Solution division, presented CloudAIR, which the vendor is pushing as the third leg of its mobile cloud stool. Huawei Technologies Co. Ltd. has previously launched its CloudEdge system (for the mobile network core) and CloudRAN (for the radio access network), both of which center around the ability to unshackle and share network resources. CloudEdge is already commercially available and deployed in multiple networks while CloudRAN was launched earlier this year, is currently in proof of concept (PoC) mode and is set to become commercially available during the third quarter of 2017. CloudAIR is focused on ways in which spectrum, channels and power can become shared resources within a mobile network, though whether simply allowing resources to be shared means it can be pinned with the "cloud" badge is debatable. The concept is



certainly in line with future roadmaps already being discussed within the mobile operator community. "The CloudAIR pitch has some of the same ideas around resource management as the X-RAN initiative launched at the NGMN conference last month." One of the main challenges for introducing spectrum-sharing capabilities as proposed by Huawei, though, is that it goes against the

industry trend of deploying multi-vendor networks that don't tie an operator to a single supplier. "The spectrum sharing approach looked very interesting as a way for operators to manage spectrum holdings and migrate subscribers across different technology generations," notes Brown. However, "it requires a single-vendor network, so it won't suit everyone, but it's interesting nevertheless."



Mobily Concludes CIO Summit in London

The annual 6th Mobily CIO summit has been completed in London under the title "Future Milestones" with the presence of many telecom and IT executives and representatives from government and business sector in the Kingdom. The summit highlighted and discussed many new issues, developments, and directions in the telecom and IT sector, and finding technical solutions through mobile solutions and direct integration between devices which can provide establishments better services for its customers with unprecedented efficiency. "Mobily CIO Summit" consisted of many workshops and seminars and scientific discussions this year, presented by Telecom & IT international specialists from Mobily partners which are the top technology companies in the world like; CISCO Jasper, EMC, Microsoft, Arbor Networks, Virtustream, Pyramid Research and Arqitek; which presented the international orientations of technical information and telecom technology for the benefit of everyone. This year events included a visit to "LinkedIn" International Company out of Mobily interest to exchange international expertise and to benefit from Large Enterprises experiences in using advanced technical information.



REGIONAL NEWS



Telecom Review Honors Industry Leaders in its Excellence Awards & Smart Networking Event

Telecom Review held its 7th annual industry awards and smart networking event. The awards recognized industry leaders for their efficient and hard work in 2016, and are a special way for Telecom Review to help celebrate the winner's success. The 2016 event marks the seventh year of the annual summit, which brings people together to debate and hear about developments in the regional and worldwide telecommunications industry. The participants – over 380 people attended last year – are drawn from across the industry, and include vendors, operators, content and solution providers, government and NGO representatives. Visitors are also highly international:

last year 24 countries were represented. With a busy agenda, the focus this year was on leveraging smart technology in the digital era. There were panels on smart city infrastructure and its impact on the economy, the challenges of data growth (notably concerning security) and on how mobility is changing the concept of media and broadcasting. The panel led by Jeff Seal brought together telecommunications leaders in a broad debate that touched on the key topics of the networks around the world.

There were 167 nominations for the Telecom Review Excellence Awards. We want to thank all of the judges who

worked tirelessly on reviewing and judging the nominees. Winners were chosen based on recognized and demonstrated capabilities in their specific sector by an independent panel of 15 experienced industry veterans. Commenting on the gathering of Industry Leaders, Jeff Seal, Managing Partner of Telecom Review North America noted, "Once again Telecom Review has brought together the leaders of the ICT/telecom industry for a day long discussion of the topics affecting our business and a special networking opportunity with their peers. The awards and this year's winners included the following:



Excellence Awards

- Best OSS/BSS Provider -Winner is Telarix
- Best VAS Provider- Winner is APTelecom
- Best Customer Service Provider for Operators- Winner is NTT Communications
- Best African Wholesale Operator Winner is Airtel
- Best Cloud Provider for Vendors- Winner is GENBAND/KANDY.
- Best Innovation for Carriers-Winner is Mitel
- Best Submarine Cable Operator- Winner is GBI
- Best Satellite Operator-Winner is Thuraya
- Best African Operator -Winner is Ooredoo Tunisia
- Best North American Wholesale Service Operator-Winner is Bell Canada
- Best Corporate Social Responsibility Initiative for Operators-Winner is Alfa

- Best Smart City Initiative-Winner is du
- Best Asian Wholesale Operator- Winner is PCCW Global
- Best Cloud Provider for Operators- Winner is du
- Best Operator for Enterprises Services-Winner is Mobily KSA
- Best Chip Maker Developer-Winner is Qualcomm
- Best Middle Eastern Operator -Winner is Etisalat
- Best Industry Vendor-Winner is Nokia
- Best Corporate Social Responsibility Initiative for Vendors- Winner is Ericsson with their partners Asiacell and IRC
- Best Middle Eastern Wholesale Operator-Winner is STC
- Best Telecom Brand-Winner is ZAIN
- Best Vendor Innovation-Winner is Huawei

Merit Awards

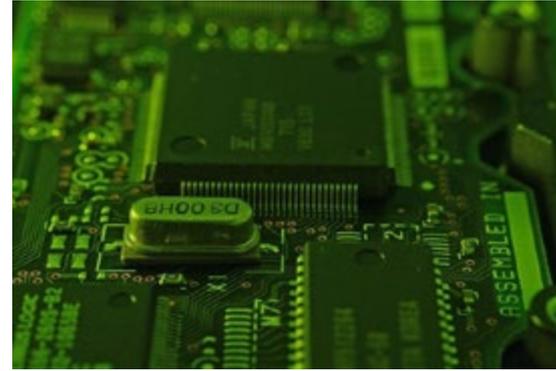
The award committee has chosen recipients for the Leaders Merit Awards based on achievements during their career, and their milestones of service to the telecom industry. This year's winners included:
 Telecom Leader of the Year-Operator- Winner is Marwan Hayek-CEO of Alfa
 Telecom Leader of the Year-Non Profit Organization-Winner is H.E. Yasser El Kady

"This year's award winners represent the absolute best in our industry and we are very proud to honor these winners with such a distinguished award," said Toni Eid, CEO of Trace Media International.

Lebanon's IT Sector is Fastest-growing Segment of the Economy

The Lebanese ICT sector holds a lot of economic potential given its fast-growing pace and its vast reach to the different aspects of consumers' daily life, health, transport, etc. In fact, the sector's added value amounted to \$1.3 billion in 2013 and is estimated to have reached \$1.7 billion in 2016, hence contributing to more than 3 percent of gross domestic product. The ICT sector is considered the fastest-growing sector of the economy after recording a 7 percent compounded annual growth rate (CAGR) in the last two years alone. According to Business Monitor International, the market size of information technology, which is an expanding segment of the ICT sector, registered a 12.6 percent CAGR in the last 10 years and is expected to hit \$436 million in 2016 and \$466 million in 2017. The wave in favor of data usage seems to

be modifying the ICT market's dynamics in Lebanon. Between 2013 and 2015, according to the Telecommunications Ministry, the number of subscribers for broadband internet more than doubled, going from 480,000 to 1.24 million. Similarly, mobile data subscriptions hit 2.92 million in 2016 as compared to 2.02 million in 2015. In the same context, low-cost Voice over Internet Protocol services through mobile devices boosted demand for data services at the expense of the standard calling services. Considered as the most successful technology of the last decade, VoIP services such as Skype, Viber and recently WhatsApp are becoming more popular among the Lebanese population as they provide a cheaper alternative for communication services. In fact, revenues deriving from voice calls are witnessing a double-digit



decline simultaneously with data usage growing at a double-digit pace. "In fact, more than 50 percent of Alfa's revenues are derived nowadays from data services rather than voice" said Marwan Hayek, chairman and CEO of Alfa.

Oman Telecom: Mobile Broadband Subscribers rise 20%



In the first 11 months of the current year the Sultanate recorded a significant 20.2 per cent increase in the number of active mobile broadband subscribers. The number exceeded 3.9 million by the

end of November 2016, according to a statistical update from the National Centre for Statistics and Information (NCSI). Meanwhile, the number of fixed broadband subscribers increased 18.6

per cent to 276,643 during the same period. However, the number of dial-up internet subscribers fell by almost 8 per cent to 2,551 during the period. The total fixed telephone lines went up from 434,932 lines as of December 2015 to 466,354 lines as of November this year, marking an increase of 7.2 per cent. The number of VoIP lines stood at 124,057 in November, in contrast to just 540 lines in September, and no VoIP lines at all in 2015. At the same time, fixed postpaid connections fell 14 per cent to 279,219 along with a 69.7 per cent drop in the number of fixed prepaid lines, which came down to 16,954 during the period. The public pay telephones remained at 6,801, with no growth over the period whereas ISDN channels decreased by 16.6% to 37,764 while WLL connections fell 12% to 1,559. Postpaid mobile connections increased 4.6 per cent to 612,226, while prepaid connections rose 2.7 per cent to over 6.22 million. Prepaid mobile operators marginally increased by 0.5 per cent to more than 5.06 million, while resellers grew by 13.6 per cent to over 1.16 million by the end of November, the NCSI report said.

Online Financial Transactions See Significant Growth in Pakistan

As the year 2016 reaching its end all the data charts are being prepared. A great rise was observed in the graph of Payments Systems in Pakistan as confirmed by State Bank of Pakistan. The reason for this growth is usage of digital media. According to the listed facts by State Bank of Pakistan in the year 2016 the RTGS increased to 29%. Also the stats state that E-banking transactions have increased by 16% in volume while they had an increase of 4% in value. Online and digital transactions are easy and can be done with much more feasibility than paper work. The shops have opened and now we have personal accounts on our mobile phone for much more convenience. Slowly the E-banking system is coming into rule. If compared to 2015 the usage of ATMs and POSs has raised to 18% in 2016 from 8% in 2015. The stats also include the mobile banking service. The statement issued by bank states, "Payment System infrastructure also showed phenomenal growth during the period under review. The number of branches increased from 11,937 to 13,179 whereas total number of



ATMs installed in the country increased from 9,597 to 11,381 during the year." State Bank of Pakistan monitors all sorts of transactions and deals. It's the most reliable bank which provides multiple

services like credit cards, debit cards, personal and business loans and much more with full security.

Saudi Telecom Ploughs \$100m into Ride-sharing Service Careem

Saudi Telecom Company (STC) paid \$100 million (€95.9 million) for a 10% stake in ride-sharing service Careem. The Middle East's answer to Uber was founded in Dubai in 2012. It enables travelers in 47 cities across the region, as well as North Africa, Turkey and Pakistan, to order and pay for a chauffeur-driven car online or using a mobile app. It faces growing competition from U.S.-based Uber, which is expanding in the Middle East in part

thanks to a \$3.5 billion investment from Saudi Arabia's Public Investment Fund in June. STC first invested in Careem in 2013 via its venture capital arm, STC Ventures, which ploughed \$1.7 million into the company. This investment "is in line with the company strategy to invest in the innovative digital world, which helps the company to provide additional valuable and innovative products and services to their valued customers and

to enhance communication via mobile within the transport system," said STC, in a statement. According to a Reuters report on Monday, STC's investment on Sunday is part of Careem's latest funding round. Careem hopes to raise \$500 million in total, and has so far completed the first tranche, totaling \$350 million. In addition to STC, Japan-based e-commerce company Rakuten also invested.

Sri Lankan Bank Launches Digital Services

In a bid to reiterate its leadership in the digital front by understanding the customers' needs and introducing innovativeness, Seylan Bank has recently launched a host of digital services. The

bank has recently relaunched its retail Internet banking portal and its mobile banking app with new features beneficial for its customers. In a formal event, Mr. Nimal Tillekeratne, Senior Deputy General

Manager-Operations of Seylan Bank spoke about the bank's initiatives on the digital front and the company's vision for the future. The complete interview can be read at the link in the source of the news.

Asia Pacific Telecom Attains 1.6 million 4G Users

Asia Pacific Telecom has attained 1.6 million 4G mobile communication subscribers, exceeding the target of 1.4 million ones for the end of 2016, according to President Tim Chen. Asia Pacific Telecom has completed the establishment of 4,600 4G base stations on a 700MHz frequency band unit and is setting up 4,600 additional ones on a 900MHz band unit with completion

scheduled for January 2017. In addition to 4G mobile access to the Internet, these base stations are for providing VoLTE (voice over LTE) services. In addition to 4G base stations, Asia Pacific Telecom plans to adopt Small Cell devices to enhance performance of 4G infrastructure in 2017. Asia Pacific Telecom expects its own 4G networks, use of Taiwan Mobile's networks on lease and Wi-Fi networks

together to cover 98% of population in Taiwan. Asia Pacific Telecom on December 12 launched a fixed monthly charge rate of NT\$999 (US\$31.4) for unlimited use of mobile access to the Internet plus unlimited intra-network and inter-network voice communications including calls to fixed-line telephone numbers, with the end of January 2017 as a deadline for application.

Ooredoo Qatar Claims 'First in region' 5G Trials



Ooredoo Qatar, in partnership with Huawei and Nokia, has demonstrated its 5G speed and latency capabilities in laboratory conditions, announcing

the completion of trials which achieved speeds of up to 35.46Gbps, representing a regional first, according to Ooredoo officials quoted by The Peninsula. The

operator also promised further 5G technology demonstrations with Nokia in the coming days, including next-generation virtual reality and robotic applications. In addition, Ooredoo says it will share the result of its trials with global partners to contribute to international agreements on standards and spectrum necessary to support the global launch of 5G services. Ooredoo's trial results will also help the development of 5G-ready equipment and devices. Ooredoo Qatar said in March 2016 that the first stages of its 5G network will be deployed by 2018, leading to 5G services being commercially available by 2020, 'as soon as it is standardized'. Earlier, in November 2015 Ooredoo Group and Sweden's Ericsson signed a Memorandum of Understanding (MoU) for 5G development 'with the ambition of developing use cases, requirements and deployment scenarios for 5G technologies'.

SAARC to Conduct a Seminar on Mobile Financial services

Bangladesh: A day-long SAARC Finance Seminar on "Impacts of Mobile Financial Services (MFS) in the SAARC Region" will be held at the Sonargaon Hotel in Dhaka. Bangladesh Bank's SAARCFINANCE Cell of the research department is organizing the seminar, said a press release here. Bangladesh Bank governor Fazle Kabir will inaugurate the seminar as the chief guest while BB's Deputy Governor Abu Hena Mohd Razee Hasan will preside the session. Former Dhaka University Finance

Department professor MA Baqui Khalily will deliver the theme paper in the seminar. Some of the renowned economists' along with the chief of different research institutions and experienced bankers of the country will also be present as session chairs and panelists of different events. Delegates from the central banks of SAARC countries and high officials from Bangladesh Bank, different ministries of Bangladesh government, national and international officials of

different institutions will participate in the seminar. The seminar will contribute to accelerate the financial inclusion drive and recommend how it can contribute more to ensuring sustainable economic growth in the region. In addition, this seminar will also discuss and analyze how more secure and cost effective remittance inflows among the SAARC member countries can be brought under the aegis of MFS.

E-commerce Boost in Pakistan

Commerce Minister Khurram Dastgir Khan has said that e-commerce in the country is expected to reach US\$1 billion by 2020. While inaugurating a seminar on "E-commerce for Development" in Geneva, he said, "Our legislature is working hard to update the rules and regulations governing digital trade." The seminar was organized by the government of Pakistan and was attended by a large number of World Trade Organization (WTO) members and ambassadors. All heads of agencies appreciated the initiative taken by Pakistan. It was coordinated by Dr. Tauqir Shah, Pakistan's ambassador to WTO. The group consists of Costa Rica, Nigeria, Kenya, Sri Lanka, Argentina and Uruguay. Country experience from Sri Lanka, Argentina, Nigeria, Pakistan and ASEAN were presented and debated. Representatives

of the World Bank, WTO, trade for all, EBay, Alibaba and Mercado Libre gave presentations on this occasion. Speaking on the occasion, the minister said that commerce was an inescapable fact of life, adding that the digital economy has emerged as an unstoppable giant that was growing at 10 percent a year, three times greater than the rate of overall global economic growth. "Internet revolution contributes 8 percent of global GDP, the development of mobile broad band holds the promises to bring billions more on line, thus narrowing the digital, economic, physical and educational divide," he added. He said internet related consumption and expenditure has already surpassed the size of the global agriculture and energy sectors. But only a small proportion of this is happening in LDCs and developing countries. He said, "It was this reality which motivated our group of like-minded countries to launch, Friends of Commerce for Development." He said the seminar was first major initiative of Friends of E-commerce for Development. He said the event has only been possible through exemplary support of OWTO, UNCTAD, ITC, World Bank and all members of the group namely Costa Rica, Argentina, Sri Lanka, Nigeria and

Kenya. Ecommerce is multidimensional and multi-agency and it requires very close private-public partnership, and inter agency coordination", he remarked. He said that the prime objective of this seminar was to debate the opportunities and challenges offered by e-commerce for LDCs, Land Locked Countries and Small Island economies in particular, and Developing countries in general. He



said that considering the complexities of e-commerce, "we need more engaged and structured discussions in form of seminars and workshops, so that members particularly developing and LDCs get better understanding of challenges and opportunities associated with e-commerce and identify areas of work catering for their interests. He said, "We, the Friends of Ecommerce for Development, believe that e-commerce provides an opportunity for developing country and LDC enterprises to overcome some of the logistical and geographic challenges they face in terms of access to markets." A Digital trade allows many small enterprises to participate in the global market, he added. The minister said the vital link between trade and development was enshrined in the WTO agreements; they provide special provisions for developing countries, which comprise of almost 75 percent of WTO membership. He added that the WTO has provided more and more developing countries with a seat at the table - where their voice is heard just as loud as any other, and they play a key role in managing the system, shaping its agenda, and negotiating its agreements. "Ultimate aims of trade policy and trade rules must

be poverty reduction, growth, welfare and development that work for all members of the global economy", he remarked. He said that the internet, more than anything else, will define the 21st century business environment. He said that Pakistan was acutely aware of the high growth of e-commerce and its potential to address development deficit. During last two years, after auction of 3G/4G spectrum, the consumers using broad band on mobile have increased from 3 to 37 million. "Our broadband penetration rate is doubling every single year since 2013. The Global Findex report shows Pakistan as the leader in mobile banking transactions in South Asia, having 133 million mobile phone subscribers and 11 percent of them use mobile phones to carry out financial transactions," he added. The minister said

e-commerce in the country is expected to reach \$1 billion by 2020. He said that superpowers of 21st Century are Amazon, Google, Facebook, Ebay and Alibaba. He said that promoting fair competition between online and offline services were critical for developing countries. The gains from the digital revolution have not been shared widely, he added. He said there were huge challenges for developing and transition economies to reap gains from e-commerce. These challenges included poor infrastructure, inadequate logistics, low adoption rates of information and communications technology, outdated legal and regulatory frameworks, lack of payment solutions and financing. "The UNCTAD index clearly shows that the capacity and ability to engage successfully in e-commerce varies significantly among countries," he remarked. WTO DG Roberto Azevedo, ITU Secretary General Houlin Zhao, UNCTAD Secretary General Dr Kituyi and International Trade Center Executive Director Arancha Gonzalez participated in the event as founding coordinator of Friends of Ecommerce for Development. Heads of leading Geneva based trade institutions also attended the seminar.

Meditel Becomes Orange in Morocco

Orange has announced the launch of the Orange brand in Morocco, where it replaces the Meditel brand from 08 December. With 14.2 million customers at the end of September, Orange's Moroccan subsidiary brings together the second largest number of customers within the Group's Middle East and African footprint, after Orange Egypt. It contributes close to 10 percent of revenues in this region. Formed in 1999, Meditel's network has grown to more than 5,400 km of optical fiber and more than 4,000 radio sites

throughout the country. Meditel's 2G and 3G networks provide coverage for 99 percent of the population, and the company launched a 4G service in June 2015, which now reaches 42 percent of the population. Orange is present in 29 countries across the globe, including 21 countries in Africa and the Middle East. It became the largest shareholder in Meditel in 2015, when it increased its stake to 49 percent from the 40 percent stake held since 2010.



Joint Study Outlines Roadmap for a Digitalized Future for GCC Businesses

Senior executives from Siemens Middle East and Strategy& launched the "Preparing for the digital era: the state of digitalization in GCC businesses" report at Dubai's 3D-printed Office of the Future, highlighting key findings from the joint study that are intended to help encourage the progress and evolution of digitalization among the region's businesses. Of the 300 companies surveyed, 60% believe that digitalization has the potential to create new business models or lead to a more open culture of innovation. However, only 3% of organizations believe they are at an advanced stage of their digital transformation process, with only 18% using the cloud and 30% using big data and analytics specifically. The study also found that GCC companies are lagging behind their government and consumer counterparts when it comes to using digital technologies. For example, GCC governments have acknowledged the economic and social benefits of digitalization, incorporating them into their ambitious strategies. Saudi Arabia's Vision 2030 and National Transformation Plan 2020, Smart Dubai, Qatar's Connect 2020 ICT Policy, and Oman's digital strategy e-Oman all stress the importance of the use of digital technologies. Similarly, GCC consumers are among the most tech-savvy in the world. The UAE, Qatar and Bahrain have more than 100% smartphone penetration rates and young people across the region are playing an important role in influencing the development of new technologies. "Governments and consumers in the

GCC have been rapid adopters of digital technologies, and our report tells us the benefits of digitalization are widely acknowledged by the majority of organizations," said Dietmar Siersdorfer, CEO, Siemens Middle East and UAE. "However, many companies in the region have some catching up to do, and our research suggests there is still work to be done to encourage the understanding that digitalization is a transformation journey, requiring a holistic approach. Companies must develop a business strategy for the digital age, and finding the right partners is essential. The GCC is taking great strides towards economic diversification, and digitalization is a key driver of globally competitive business, industry and infrastructure. The region is in a position to fully embrace the disruptive potential of digitalization, across all sectors." Though GCC company executives show great enthusiasm for going digital, many are still coming to grips with its full meaning and potential. In general, executives have a narrow view of digitalization which often ignores the far-reaching benefits that moving towards digital can bring, such as problem solving, reinventing business models, reimagining the customer experience, inspiring trust and accelerating change. The fact that many organizations have a partial understanding restrains the uptake of digital technology and obstructs the formulation of effective strategies. Discussing the use of digital technology in the GCC, Samer Bohsali, Partner with Strategy& in Dubai, said:

"Executives in the GCC are excited by digital. They recognize its benefits, such as stronger customer orientation and increased efficiency, which is vital in an era of budget constraints. Many companies, however, perceive the process of going digital as the adoption of a specific technology, rather than a transformation journey." While many organizations are gradually building technology capabilities, some lack the vision and the necessary leadership to drive their digital transformation. Taking practical steps forward can often be beset by internal obstacles, be they cultural, organizational, people-related or financial. For example, 40% of companies in the region have allocated less than 5% of their total investments to digitalization activities. Only 37% of companies have a strategy for going digital, and less than 1% of companies have a Chief Digital Officer. There is also work to be done on the infrastructure and regulation front, as well as tackling skill deficiencies in areas such as data analytics and human centered design, which are vital for the development of the region's digital ecosystem. However, there is a way forward for GCC companies to fully realize the benefits of digital technologies. Instead of simply importing best digital practices and technology, the Strategy& and Siemens report recommends that GCC organizations should approach this transformation holistically by creating the building blocks for digital transformation.

Qatar Urges SMEs to Focus on Secure Digital Innovation

The global flow of data is rapidly becoming as important to economic development as the flow of oil, goods and services between nations, according to experts. Experts said Qatar taking important steps to encourage young people to pursue their ambition and to provide a secure framework for digital innovation. Speaking on the second day of The Euromoney Qatar Conference, which concluded yesterday, Khalid Al Hashmi, Assistant Undersecretary, Cyber Security, Q-CERT (Qatar Computer Emergency Response Team) outlined the work his organization is undertaking to ensure Qatar continues to enjoy the

highest level of information security. "The threat landscape is growing as the level of digitization increases across society," explained Al Hashmi. "We are seeing that companies are now facing a higher level of risk across their supply chain, as they look to outsource more processes and move more operations into the Cloud. Q-CERT is working in alliance with regional and international bodies to exchange information about online risks and ensure the highest level of protection for Qatar," he said. More than 600 international and national delegates attended The Euromoney Qatar Conference 2016 held at the Ritz-

Carlton Hotel. There was strong interest in the on-stage discussions on Day Two, which focused on the role of technology, innovation and the measures in place to support Small and Medium Enterprises (SMEs). In a keynote interview, Sara Alkhelaifi, Computer Engineer, Financial Stability and Cyber Security, Qatar Central Bank "Like many developed nations, Qatar is still realizing its digital potential, working hard to promote programmes that enable citizens to access services and realize their ambitions through digital channels."

UAE Telecoms Market to grow 3.7 Percent

Driven by the growth in the fixed and mobile data segments as 4G network coverage expands and appetite for faster speeds and additional content increases, the telecommunications market in the UAE will grow at a compound annual rate of 3.7 per cent over 2016-21, a market survey said. While competition between the two telecom operators - etisalat and du - is expected to grow further following the implementation of fixed network-sharing agreements by the regulator, both together will account for 97.5 per cent of the telecom market in the UAE, the study by Research & Markets said. Mobile data

and fixed broadband revenue will grow, owing to the increasing adoption of 4G networks and fiber-optic technology. Fixed VoIP will be the fastest-growing segment aided by the growing adoption of triple-play services. Operators should focus on further diversifying their service portfolios by offering multi-play services to the residential segment and targeting Internet of Things and machine-to-machine communications to business customers, it said. The telecom service revenue growth will be boosted by mobile data, fixed VoIP and fixed broadband segments while 4G will replace 3G as

the largest-adopted technology by 2019. According to market experts, the UAE telecom market, which generated \$8 billion in service revenue in 2013, is on track to record revenue of \$10.1 billion in 2018, with a cumulative revenue total of \$46.4 billion during 2014-18. While prospects for future growth are buoyed by sustained investments by the two major players in the market, mobile data will be the fastest-growing revenue segment in the market projected to grow at a CAGR of 19.3 per cent from 2013 to 2018, according to analysts.

Passengers Enjoy Unlimited Free High-speed Wi-Fi

Passengers will now be able to enjoy unlimited free high-speed Wi-Fi at Dubai International and Dubai World Central after operator Dubai Airports officially rolled out the upgraded service across both airports today. The launch of the new service follows extensive research into passenger expectations, as a result huge efforts have been made to upgrade airport Wi-Fi infrastructure capped off by the successful completion of a four-month pilot project launched at Concourse D in July earlier this year. The unlimited free Wi-Fi takes only one click to connect thanks to a much simplified

landing page, and offers speeds that set a new benchmark in airports globally. To ensure the speed and reliability of the new service, Dubai Airports is currently investing in over 6,000 new Wi-Fi access points to upgrade the entire wireless network infrastructure across both airports, and enhanced the internet links to over 5Gbps to provide the required bandwidth capacity, sufficient to power a small city. New web applications have also been specially developed for each terminal and concourse to improve information for passengers. "As the world's largest international hub we

are the heart of many journeys across the world today. When our passengers arrive in Dubai after a long journey they now expect to keep in touch with friends and family all over the world. To enable this, Dubai Airports has invested heavily in developing a state of the art infrastructure to deliver industry leading Wi-Fi capability. It is just one of many initiatives we have undertaken to serve and delight the 83 million passengers that will pass through our airports this year," said Michael Ibbitson, Executive Vice President of Business Technology at Dubai Airports.

Pakistan to Connect to China via High Speed Optic Fiber

The first phase of US\$44 million project aimed to connect Pakistan with China through high speed fiber optic cable is expected to be completed by next year, one year ahead of schedule. The first phase of project was initiated this year under China-Pakistan Economic Corridor Project. Work on eight sections of 100-125 kilometers length was started simultaneously. By employing special tools, human resource and skills the project is expected to be completed by



next year, one year ahead of schedule. Director Pakistan-China Optical Fiber Cable project Colonel Waseem Ahmed

in an interview told The Nation that 820 kilometer fiber optic cable will be laid from Khunjerab to Rawalpindi and in second phase the cable will be laid from Rawalpindi to Gwader and Karachi. Special Communication Organization is a affiliated department of Pakistan Army. It is a public sector organization established in 1976 to develop, operate and maintain telecom services in Azad Jammu & Kashmir and Gilgit Baltistan. The organization was given task to provide telecom facilities in the mountainous region after T&T failed to provide telecom services in hard geographic locations of AJK and GB. As per law, the organization is under joint control of Ministry of IT and Army. In fiber optic project also the organization will have to fight against extreme weather and other challenges. Under the project cable will be laid from hilly areas of Khunjerab to Karimabad, Naran, Masnsehra, Abbottabad, Taxila, and Rawalpindi,

one of the most difficult terrains of the country. Ahmed said weather, geographic conditions and extreme low temperatures are the main challenges of the first phase of the project. There are 120 bridges, 20 tunnels, 7 land crossings and many glaciers and landslides we have to negotiate, he said. He said de to extreme weather at Babusar top and some areas in chillas and Sost, his organization has employed specialized tools. When completed, this back-haul fiber optic cable will provide Pakistan with a direct telecom access to China, Central Asian States and from there to Europe and to and from the United States. Pakistan is currently connected with the world through four undersea fiber optic cables, while another five are being built and will be operational in the next couple of years. Officials believe after the laying of fiber optic from China to Gawader and Karachi the country will have international connectivity. It will connect western, central and eastern route of China Pakistan Economic Corridor not only providing employment opportunities to locals but would provide telecom services in un served and underserved areas of the route, Projector director said.

Pakistani Mobile Operator Introduces Service for Farmers

Pakistan mobile operator Mobilink is targeting the agriculture sector with the launch of its service 'Ba Khabar Kissan'. The app-based service using interactive voice response technology will provide farmers information and services related to agriculture such as optimized cultivation methods, modern farming

techniques, health education for farmers, health precautions for plants, 24/7 helpline with training, weather information, crop insurance, market-related information and a platform for sales. To get more farmers acquainted with the service, the operator held a promotional event in Haripur, Khyber Pakhtunkhwa for about

1,300 local farmers. With the launch of this service, Mobilink said it is looking to harness the strength of its extensive telecommunications network to connect farmers, agribusinesses, and rural communities, in a bid to drive productivity, profitability, and innovation.

Nepali Bank Innovates with Internet Banking

NIC Asia has recently launched a new service of inter-bank payment system (IPS) direct through internet banking system in collaboration with Nepal Clearing House Ltd (NCHL). With the launch of this service, account holders of the bank availing internet banking service can now transfer funds to more than 60 financial institutions, including all the

commercial banks which are associated with NCHL-IPS system, according to a media release issued on Wednesday. "The bank is the first financial institution in Nepal to incorporate NCHL-IPS fund transfer system through internet banking service. This service has been launched in continuation to serve our valued customers exclusively by offering an

array of products and services reaffirming our commitment to focus on customers." The new service also comes in line with the bank's 'Bank Pani Saathi Pani' brand promise where it claims to be committed to offer innovative services, and providing easy and convenient banking access for its customers.

Rise of Branchless Banking in the Middle East

Launching in early 2017 and operating mainly on Smartphone applications, tablets, and computers, this revolutionary bank makes the bank teller obsolete. "We are delighted to bring the first digital-only bank to the region," Walter Lironi, the general manager of digital transformation at CBD, said in a press release. "There is no bigger convenience than bringing the branch to the palm of our customer's hand." Traditionally, banks have had branches where customers would go to deposit and withdraw money, check balances, and transfer money all through a teller. Many larger banks worldwide like Chase and Wells Fargo in the United States, have introduced mobile apps in the past few years that allow users to monitor and transfer money from accounts online as well as pay credit card bills. Users are still required, however, to go into branches to set up accounts and online accounts and still have the option of visiting a local branch. CBD Now, on the other hand, is a new, totally digital bank in addition to CBD. The bank is built not by bankers, but by technology. "What the big banks have done is that they have added the digital function so it looks like it's digital but it's not, so you don't really get a digital experience, Chris Skinner, author of the blog The Finanser, told The Media Line. "The digital bank is a bank built on the internet and the whole organization has a digital base." "This is not the same as moving from paper to electronics," Jim Marous, the publisher of the Digital Banking Report, told The Media Line. "This is a complete rethinking of all operations to reflect a digital era." According to "Sara", CBD's virtual assistant, the online banking system will allow customers to access their account information as well as pay

bills and transfer money— all with what the bank is calling "the highest security measures." The upside to digital banking, "Sara" says, is that users can access their information in real time at any time. CBD is planning to offer special accounts and credit cards that are digital-banking friendly. Some larger banks like BBVA that are looking to digitize have started buying startups to help with the virtual upgrade. According to Christa Hainz, a senior economist at the Center for Economic Studies in Munich, this is because it is easier to integrate a new company than to change the existing one. "The new trend is to try to buy startups because their organizational structures are much more flexible to develop apps for digital services and to later integrate them into the bank," Hainz told The Media Line. On the other hand, many startups also use larger banks as backup when creating their own online banks. CBD Now was created to assist the government of Dubai, one of the seven emirates of the UAE in the economic aspect of its 2021 vision, which is seeking to make the "city of gold" the capital of the Islamic economy, as well as a pivotal banking and investment hub. According to the press release, CBD is looking to attract millennials and the digitally-savvy, which is important in Dubai as it continues to develop into a technologically-based society. "It's a way to attract a different demographic," Mehir, a New York-based financial analyst who asked that his last name be withheld as he did not have permission to speak to the media, told The Media Line. "These banks are cool and they are customized to deal with the population they want to attract." Before completely launching the new service, CBD plans to introduce a pilot service known as the

CBD Now Co-Founders program that will allow some the new customers to help develop the completely digital banking service essentially tailoring it exactly to their needs. For example, there is a new digital bank in London also geared towards millennials that not only tracks what users have spent but also shows future cash flow based on the user's lifestyle. It essentially acts as both a bank and a financial advisor, something users wanted. "Fintech firms are largely gaining momentum by meeting needs traditional players have yet to address," Marous said. While completely digitizing allows users full control and access at their fingertips, some analysts say that by eliminating branches and employees, communication is still a challenge "If you are totally digital, then the communication channels are different in the end," Hainz told The Media Line. "At the retail banks, you at least have some service counters where you can still interact on a personal level with the customers, which you don't have if you go fully digital." The Media Line was unsuccessful in reaching both the Commercial Bank of Dubai as well as other digital banks like the UK-based Atom Bank. Founded in 1969 as a joint venture between Commerzbank, a German bank; JP Morgan Chase in Manhattan; and, the Commercial Bank of Kuwait, CBD developed into a national public shareholding company in the United Arab Emirates (UAE). The bank operates with over one hundred branches and ATMs only within the UAE. CBD is not, however, the only UAE-based banks looking to digitize. Emirates NBD and the Abu Dhabi Islamic Bank have also stated that they have plans in the works to digitize.

Mobile Operator Launches Internet Banking Services in Pakistan

Pakistani microfinance bank Mobilink Microfinance Bank Limited (MMBL) has launched internet banking services for its customers. With TPS as its technology partner for this digital banking feature, the bank enables its customers to process financial and non-financial transactions. MMBL customers can register online,

view their Account/Debit-Card Summary, as well as the Transactions Limits assigned to their accounts / cards. Customers can also generate Statement Of Account / Mini-Statement, add a beneficiary, setup and schedule fund transfers (Intrabank and Interbank), sign up for their ATM Card / Cheque Book / On

Demand Statement of Account, suspend their Internet Banking Account, as well as edit their ID and password. Bill Payments & Mobile Application features will be added to the online banking service in the next few weeks

Omantel Accepts Offer for WorldCall Stake

Oman operator Omantel said it has accepted the offer presented by WorldCall Services and Ferret Consulting to buy the Omani operator's stake in Pakistani subsidiary WorldCall Telecom. Omantel received the non-binding offer in September. Omantel holds a majority 56.8 percent stake in loss-making WTL.

Omantel said it does not expect that there will be any material financial impact on the company as a result of accepting this offer. The buyers are working on completion of the transaction, which is subject to approval of concerned regulators in Pakistan. Arif Habib, which is managing the transaction, in

September revealed WorldCall Services' intention to acquire 56.8 per cent of ordinary shares held by Omantel. In addition, Ferret Consulting made a bid for WTL's entire convertible preference shares. WTL incurred a net loss of OMR 22.5 million in 2015 against a net loss of OMR 14 million in 2014.

Digital Services to Act as a Game Changer to Nepalese Economy

The focus on financial inclusion has deepened in recent years following the G20's adoption of financial inclusion as one of its primary policy goals. Financial inclusion denotes the opportunity for low-income groups to obtain affordable access to basic financial services. An inclusive financial system contributes towards alleviating poverty and promoting a country's broader economic development. In recent days, advocates of financial inclusion have accorded due priority on providing access to financial services through digital channels for the poor as digital financial services (DFS) provide an accessible and affordable entry point into financial systems for many unbanked and under-banked people. DFS connotes an array of financial services accessible via digital remote channels such as e-money, mobile money, card payments and electronic funds transfers. The aim of increasing the accessibility of DFS for the poor is not to introduce the poor to the concept of financial management but rather to provide them with a more reliable, affordable and accessible financial practice. There is now growing empirical evidence divulging that using DFS to have access to a greater range of financial services improves financial inclusion which subsequently contributes towards improving standards of living for the poor. Digital technologies offer great potential to overcome critical development challenges and could contribute towards the World Bank Group's aim of achieving universal access to financial services by 2020. While in 2015 the UN underscored financial inclusion as a mechanism to steer progress toward the 17 Sustainable Development Goals, a few months ago, the G20 drafted eight High-Level Principles for Digital Financial Inclusion, providing

a basis for how countries can employ digital technology to create a more inclusive economy. When governments digitize payments, it results in an improved delivery of government social payments with substantial cost savings. Likewise, the increased transparency in government transfers when undertaken via digital channels leads to less "leakage" and better traceability of payments. Again, research illustrates that using digital methods for remittances increases remitters' feeling of control over the funds being remitted which have a positive impact on the amount of funds being remitted. Moreover, the utilization of DFS generates a greater and more reliable pool of information on customers. DFS open up new avenues into the financial system for the disadvantaged, and also contribute to the objective of women's economic empowerment. In short, it can transform the financial lives of those who employ this technology. Still, a number of challenges exist with regard to expansion of DFS. These include a) making up-front investments in payments infrastructure, b) educating new account owners on the basic interactions involved in a digital payments system—using and remembering personal identification numbers, understanding how to deposit and withdraw money and c) undertaking steps to guarantee a reliable and consistent digital payments experience. Furthermore, there are also infrastructure challenges that act as obstacles to the broadening of electronic financial services in rural areas including the lack of electricity with which to power mobile phones, limitations in mobile network coverage, and poor roads and transport networks. Yet, consumer education is the crux in influencing a largely unbanked population of the advantages of digital

payments and winning their widespread acceptance. At the same time, it needs to be stressed that it is the private sector that has to design digital payment solutions that are customized to the demands of individuals and easy to understand. The Government, on its part, must address the regulatory concerns, and work with the private sector to build infrastructure that can reach rural areas. As part of its vision to graduate from its Least Developed Country status, Nepal had earlier announced a commitment to modernize its economy through digital payments as the policymakers acknowledged the value of accelerating the use of safe, sound digital payments platforms for enhancing financial inclusion. Nepal Rastra Bank, through its Monetary Policy for 2015/16, put due emphasis on the expansion of branchless banking and mobile banking services in the geographical region with low financial access. Analogously, the government has announced in its Budget for 2016/17 to channelize government to people (G2P) payments including pensions and other social security allowances through digital channels after making necessary arrangements. Financial regulators around the world have acknowledged the instrumental role DFS can play for financial inclusion and seek to unlock this potential by creating enabling environments. DFS lower transaction costs, increase transparency, and accelerate access to formal financial services that help people break the cycle of poverty and drive inclusive economic growth. In Nepal's case, it is possible for digital financial inclusion to become a game changer for unserved and under-served low-income households as well as micro- and small enterprises in the country.

SATELLITE NEWS

Boeing to Build Next Spacecom Satellite for \$161 Million

Spacecom announced it will buy a satellite from Boeing Satellite Systems International for \$161 million, Reuters has reported. The new satellite, Amos 17, would be aimed at expanding and growing Spacecom's coverage in Africa, Middle East and Europe. The company expects Amos 17 would launch in 2019 and have a life expectancy of 15 years. The new satellite contract comes as contact with its Amos 5 satellite, launched

in 2011, was lost last year, and its Amos 6 satellite was destroyed in a SpaceX Falcon 9 rocket explosion last September. Spacecom is still in negotiations with Beijing Xinwei Technology Group, which was planning to buy the company for \$285 million, and then reduced the amount to approximately \$190 million after the loss of Amos



Globecomm Supports Asia Broadcaster in Broadcast Facility Expansion

Globecomm announced it has been selected by a leading Asian broadcaster to expand its state-of-the-art broadcast facility. Under the phased contract, Globecomm will provide design;

relocation and implementation services and new electronics for their TV broadcast uplink satellite Earth stations. This new contract allows the customer to improve the operations of its Direct Broadcast

Satellite (DBS) platform, which distributes nearly 200 TV channels catering to 5 million residential customers throughout the region, according to Jason Juranek, CEO and CFO of Globecomm.

ESA, Inmarsat Complete Flight Trials of European ATM Modernization Project



The European Space Agency (ESA) and Inmarsat have completed the first flight trials for Iris Precursor, a project to enhance and modernize air traffic management over European airspace. Iris Precursor focuses on the development and deployment of secure satellite-based data link communications to significantly optimize European airspace capacity, leading to overall reductions in flight times, fuel burn and CO2 emissions. Iris Precursor aims to complement existing terrestrial data link communications (VDL2), which are expected to reach capacity in the near future. The

organizations conducted four test flights from Amsterdam under an initial phase to validate the use of satellite-based data link for secure communications and surveillance applications, and compare the capabilities to existing terrestrial data link communications. They were operated on aircraft from the Netherlands Aerospace Centre (NLR) using a prototype of the Iris terminal developed by Honeywell and connected to Inmarsat's next-generation SwiftBroadband-Safety service through Inmarsat's aviation partner, SITA. Each of the flights travelled in different routes, covering all directions to ensure connectivity was maintained as the aircraft crossed satellite beams. The end-to-end connection between the aircraft and SITA's Controller Pilot Data Link Communication (CPDLC) test ground system was tested extensively and allowed air traffic control messages to be exchanged using Aeronautical Telecommunications Network and Security gateways. Inmarsat is

conducting the Iris Precursor program with a consortium of companies from across the air traffic management, air transport, aeronautics and satcom industries, under the ESA's umbrella. The program, which is supported by ESA's program of Advanced Research in Telecommunications Systems (ARTES), will deliver services via Inmarsat's SwiftBroadband-Safety platform. While the Iris Precursor program will initially focus on continental Europe, it will also benefit air traffic management in other regions around the world in the longer term. Inmarsat is now working toward a second phase of flight trials for Iris at the end of next year. At this point, Iris technology will be considered fully validated. The next phases of the program include pre-operational validation by flying Iris technology on commercial flights in a real air traffic management environment. The Iris Initial Operational Capability (IOC) will go live as early as 2019, complementing terrestrial systems.

Bigleaf Networks Announces Automatic Optimization for Satellite Connectivity

Bigleaf Networks, a cloud-first Software-Defined Wide Area Network (SD-WAN) service that optimizes internet and cloud performance by dynamically choosing the best connection and adapting Quality of Service (QoS) in real-time, announced new satellite-optimized adaptation within its SD-WAN software. Bigleaf's patent-pending technology adds SD-WAN routing intelligence and prioritization to all underlying internet connections, preventing outages and improving cloud application performance. Bigleaf's

optimizations for satellite connectivity includes the following plug-and-play automatic features:

- Prioritizing routing of real-time applications such as Voice over IP (VoIP), Point of Sale (POS), virtual desktop, and chat, plus transactional traffic such as web browsing, Electronic Health Records (EHR) and Software as a Service (SaaS), over any available and healthy landline connections
- Allowing less performance-sensitive

bulk traffic such as patch updates and file transfers to be load balanced onto satellite connections

- Maintaining real-time re-routing and prioritization over all circuits, including satellite, in the event of any performance issues like outages, brown-outs, or jitter spikes

These optimizations combine with Bigleaf's existing Dynamic QoS, Same-IP failover, and other features.

Hughes Readies for NextGen Satellite Internet with EchoStar 19 Launch



A United Launch Alliance (ULA) Atlas 5 rocket carrying Hughes Network Systems' EchoStar 19 satellite successfully lifted off from Space Launch Complex 41, Cape Canaveral, Florida on December 18.

Built by Space Systems Loral (SSL) and designed with Hughes Jupiter System technology, EchoStar 19 is a multi-spot beam, Ka-band satellite which in its final orbit will increase capacity for HughesNet high-speed satellite internet service to homes and businesses in North America, according to the company. Lockheed Martin Commercial Launch Services procured the Atlas 5 for this mission and SSL confirmed the satellite is successfully performing post-launch maneuvers according to plan. EchoStar 19 will spend the next two weeks moving into a geosynchronous orbit 22,236 miles (35,786 kilometers) above the earth at 97.1 degrees west longitude. It

will go through extensive testing before going live at the end of the first quarter of 2017, when Hughes introduces its HughesNet Gen5 high-speed satellite Internet service in the U.S. This was ULA's 12th launch in 2016 and the 115th successful launch since the company was formed in December 2006. The mission was launched aboard an Atlas 5 431 configuration vehicle, which includes a 4-meter Extra Extended Payload Fairing (XEPF) and three solid rocket boosters. The Atlas booster for this mission was powered by the RD AMROSS RD-180 engine, and the Centaur upper stage was powered by the Aerojet Rocketdyne RL10C engine.

ViaSat, Boeing Complete Preliminary Design Review for ViaSat 3 Satellites

ViaSat and Boeing announced today that Preliminary Design Review (PDR) for the first two ViaSat 3 class satellites was completed on November 16. Concluding PDR is the first critical milestone toward confirming the satellites will satisfy performance specifications and requirements when operating in orbit. Completion of this step allows ViaSat and Boeing to begin detailed design work on each satellite. The first flight hardware is on schedule to arrive in ViaSat's Tempe, Arizona satellite integration facility in late 2017. The first ViaSat 3 class satellite is expected to launch in 2019. The ViaSat

3 class of Ka-band satellites is expected to provide unprecedented capabilities in terms of service speed and flexibility. The first two satellites will focus on the Americas and on Europe, Middle East and Africa (EMEA), respectively, with a third satellite planned for the Asia-Pacific region, completing ViaSat's global service coverage. Each ViaSat 3 class satellite is expected to deliver more than 1 Terabit per second of network capacity, and to leverage high levels of flexibility to dynamically direct capacity to where customers are located. "The ViaSat 3 class of satellites are the

highest power payloads a Boeing-built 702 satellite platform has ever supported, coupled with the efficiency of all-electric propulsion," said Mark Spiwak, president of Boeing Satellite Systems International. For each ViaSat 3 class satellite, ViaSat will build the satellite payload, integrate the payload into the Boeing-provided payload module and test the integrated payload. Boeing will provide the scalable 702 satellite platform, system integration and test, launch vehicle integration and mission operations services.

NSR: Drones Offer \$19.9 Billion Opportunity for Satellite



Unmanned Aircraft Systems (UAS), or drones, could offer the satellite industry a \$19.9 billion revenue opportunity over the next decade, according to a new report by Northern Sky Research (NSR). As the need for government UAS satellite communications and commercial imaging services arise alongside the rising use of drones in industries such as

agriculture, maintenance, real estate and others, the satellite industry could see opportunity, but also competition, from drones. According to NSR's third edition of the "Unmanned Aircraft Systems (UAS): Satcom and Imaging Markets" report, the government sector will enable the largest demand for UAS satellite services. The persistent demand for Intelligence, Surveillance and Reconnaissance (ISR) by the defense and intelligence community in hostile areas drives the demand for unmanned airborne solutions. These communities are increasingly using unmanned solutions for peacekeeping, border patrolling, and humanitarian efforts. NSR projects the need for more than 5,000 active UAS satcom units by 2025, with Medium Altitude Long Endurance (MALE) airframes accounting for 80 percent of the growth. "Across the UAS industry value-chain, there are opportunities for the satellite industry, especially in satcom services, as payloads and sensor suites get more sophisticated, and the end-customer demands more bandwidth for applications like slow-

motion video in real-time," said Prateep Basu, NSR analyst and report author. While the United States has traditionally dominated the satcom market for large defense- and intelligence-related UAS, satellite companies are beginning to see an upshot in opportunity from areas outside the U.S. "One of the biggest changes that we have seen is that this market that was primarily U.S. dominated, because the U.S. has the biggest fleet of these large [Unmanned Aerial Vehicles] UAVs that need satellite-based links for beyond-line-of-sight communications. Satellite companies are exploring non-U.S. markets, and the growth that we are seeing in the next three to five years will expand beyond the U.S. and [the North Atlantic Treaty Organization] NATO. A lot of these drones are being flown across the globe in South America, Middle East and Africa, India, and Russia," Basu told Via Satellite. As the growth is being spurred in these regions by the decision to rely more heavily on UAS for ISR, which require satellite links for command-and-control and dedicated data links, the demand for satcom services will also grow proportionately.

iDirect Completes DVB-S2X iQ Series Remote Tests on Intelsat 29e

VT iDirect has completed a successful round of over-the-air tests on the Intelsat 29e satellite leveraging iDirect's next-generation iQ Series remote. iDirect's ground infrastructure platform and iQ Series modem technology combined with Intelsat EpicNG satellites yielded a throughput rate of 5.71 bps/Hz – a demonstration of the up to 330 percent efficiency performance gains on the Intelsat EpicNG platform, according to the company. This allows iDirect and Intelsat customers to exploit the full capabilities of the DVB-S2X standard so

they can more efficiently meet demands for high-speed bandwidth. The tests were conducted in Intelsat's teleports from Oct. 26 through 28 on the Intelsat 29e satellite, running on an iQ remote installed in Atlanta, Georgia and iDirect's new universal line card and hub chassis installed in Mountainside, Maryland. The successful tests included the operation of DVB-S2X carriers with 64APSK, 128APSK and 256APSK modulation and coding, and roll-off factors of 5 percent. The user data tests demonstrated substantial efficiency improvements reaching a 5.71 bps/Hz in

throughput per remote. "With iDirect's iQ remote technology and Intelsat EpicNG capacity, service providers can transition onto our high performance network while leveraging their existing investment in hub infrastructure. This is an important achievement in enabling our customers to expand their businesses into new applications and geographies and realize their future growth objectives," said Mike DeMarco, senior vice president of operations at Intelsat.

Bolivia to Launch new Communications Satellite

The Bolivian government is looking to launch a new communications satellite in 2020 or 2021 to complement its existing satellite platform which entered

service in 2014 and has been named Tupac Katari. According to a report from local newspaper La Razon, authorities are saying that the current satellite has

brought in revenues of around USD50 million since April 2014, including around USD25 million in 2016.

NASA Reschedules CYGNSS Air-Launch

NASA has rescheduled the launch of its Cyclone Global Navigation Satellite System (CYGNSS) spacecraft for no earlier than Wednesday, Dec. 14, from Cape Canaveral Air Force Station in Florida, during a one-hour window that opens at 8:20 a.m. EST, the agency announced on Dec. 12, the original launch date. Monday's launch was aborted due to an issue with Orbital ATK's launch vehicle release system on the L-1011 Stargazer aircraft. A hydraulic system operates the mechanism that releases the Pegasus rocket from the carrier aircraft. The current targeted Wednesday launch time will allow for a replacement L-1011 carrier aircraft component to arrive from Mojave, California, and be installed, as well as support the required crew rest requirements. The CYGNSS constellation consists of eight microsatellites designed and built for NASA at Southwest Research Institute (SwRI). The spacecraft were designed to "see" through thick clouds and heavy rains to measure the movement of ocean waves beneath hurricanes. The mission's goal is to accurately measure wind speeds and hurricane intensification for the first time. After launch, the eight microsatellites – each roughly the size



of a carry-on suitcase when the solar arrays are stowed – will be oriented in a pattern that allows successive satellites to pass over the same region every 12 minutes, with a median revisit time of less than three hours. Once positioned, the satellites will operate with minimal

course adjustments throughout the two-year primary mission. The microsatellites are expected to deploy and begin testing and operations within the first 24 hours. Full hurricane science operations will begin in January – well in advance of the 2017 hurricane season.

SKY Perfect JSAT, KSAT to Collaborate on Asia-Pacific Ground Stations

SKY Perfect JSAT has entered into a strategic alliance agreement with Kongsberg Satellite Services (KSAT) in order to jointly develop and expand KSAT's ground station services for Low Earth Orbit (LEO) satellite operators in the Asia-Pacific region. The agreement will also allow KSAT to expand remote sensing operational monitoring services using satellite images. This is the latest

in a string of LEO-related business investments by SKY Perfect JSAT, such as a 2015 investment into a Japan's VB Axelspace, a 2016 investment in optical satellite images sales in Japan provided by Planet, and ground station services that will launch in the second quarter of 2017. Through this strategic alliance with KSAT, SKY Perfect JSAT is aiming to accelerate expansion of its ground

station network in the Asia-Pacific region and provide more reliable ground station services to global LEO satellite operators. Moreover, in terms of remote sensing services using satellite images, SKY Perfect JSAT will start joint marketing of KSAT's existing remote sensing services and jointly develop various maritime information services.

GlobalSat Licenses Inmarsat Ka, L-band Services Throughout Mexico

Globalsat Group has obtained a license for all Inmarsat services through its Mexican affiliate MultiSAT, has received official authorization and landing rights for foreign satellite signals in the Ka- and L-bands. The Ka-band authorization includes Inmarsat I5 satellites, which

deliver the new generation Global Express (GX) service, both for transmission (Earth to satellite) and reception (satellite to Earth), making it possible for Globalsat to legally provide mobile and fixed internet or point-to-point maritime, land and aeronautical data connectivity anywhere

within Mexican territory. Globalsat Group has also been authorized for L-band services. The Inmarsat Fleet Xpress service combines Ka- and L-band services, which aim to provide greater robustness and redundancy for the maritime satellite connectivity solution.

Spire Releases CubeSat-Based Flight Tracking Solution



remote places where ground-based tracking is ineffective or impossible. Satellite-based tracking is the only way to provide a 4-dimensions every 15 minutes (ICAO 4D/15)-compliant method of aircraft tracking over oceanic area. "Spire AirSafe will offer a compelling alternative to big-ticket air traffic surveillance systems," said Peter Platzer, Spire's CEO. "Most customers don't need up-to-the-second aircraft information – for many of them, the standard set forth by the ICAO of 15 minutes will do just fine. Spire will be able to provide plane tracking for them at an excellent price." Spire's satellites, which are built on the CubeSat standard, are about the size of a loaf of bread and draw on advancements in Unmanned Aerial Vehicles (UAVs), robotics, and high-end consumer electronics. Projects such as the FAA's NextGen, which will bring a U.S. domestic ADS-B mandate in 2020, are

Spire is introducing a space-based global aircraft tracking service called Spire AirSafe, which will capture and provide the location of all Automatic Dependent Surveillance-Broadcast (ADS-B) equipped planes. Spire said in a statement that the solution would be ready for customers ahead of the International Civil Aviation Organization (ICAO) mandate

for most international flights to provide updated flight information every 15 minutes by November 2018. Spire will launch approximately 25 ADS-B equipped satellites in 2017 and another 50 in 2018 for a total of 75 satellites. The company will launch the satellites into a diverse set of orbits to provide coverage over oceanic areas, polar regions and other

rolling out globally. Europe, Australia, China, Indonesia, and several other countries have mandated implementation dates for ADS-B and countries such as Vietnam, Sri Lanka and Singapore have already mandated that planes carry and use the technology.

General Electric Wind Energy Deploys Globalstar's Spot in EMEA and Asia

Globalstar Europe Satellite Services, a wholly owned subsidiary of Globalstar, announced that General Electric is deploying its Spot Gen3 safety device to track and protect GE Wind Energy (GEWE) workers as they install, operate and maintain onshore wind power installations in emerging markets across the Europe, Middle East and Africa (EMEA) and Asia regions. Globalstar's value added reseller, Crambo Wireless, initially provided GEWE with more than 70 Spot Gen3 devices to safeguard crews working at wind power installations in Pakistan,

Morocco, Saudi Arabia and Egypt, among other locations. As GEWE expands into new territories it will deploy Spot Gen3 devices to protect its workers in Ghana, Kenya, and elsewhere in Africa, as well as Central Europe and the Balkans. By mid-2017, GEWE personnel working at approximately 70 wind farms in EMEA and Asia are expected to use Spot devices. In the event of an emergency, Spot instantly sends the user's GPS coordinates to alert first responders through the GEOS International Emergency Response Coordination Centre (IERCC). "Our staff

sometimes works in very challenging circumstances; wherever they are, we need to know they are safe and are connected. We must be confident in our workers' security before we undertake any new wind energy development. Spot is an important part of GE's abiding commitment to providing the best possible safety and working conditions for our valuable crews," said Carlos Chivite Trincado, Onshore Wind Energy Environment Health and Safety (EHS) leader at GEWE.

Eutelsat Developing Quantum Satellite

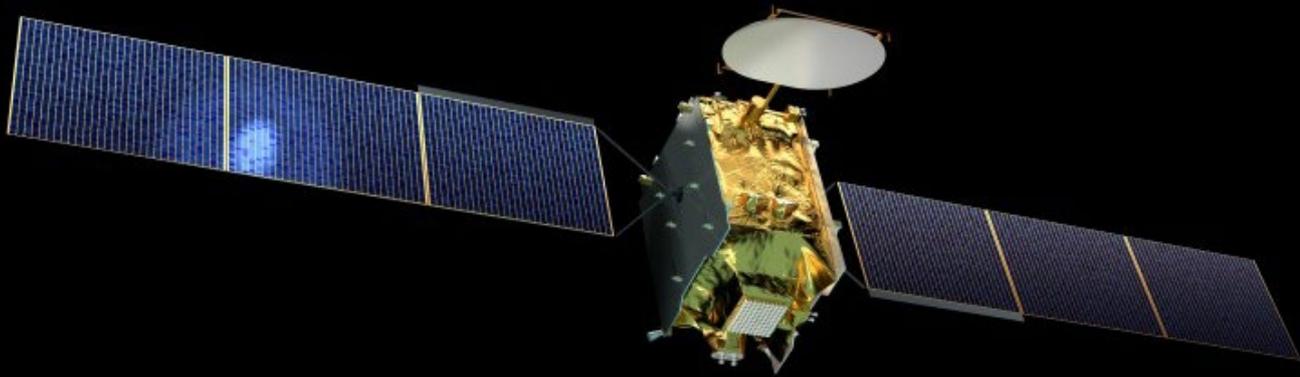
The Quantum-class telecommunications satellite is being developed by the public-private partnership between Eutelsat and the European Space Agency (ESA). The satellite, which will have the first fully-reconfigurable communications payload, is expected to be launched into the geostationary equatorial orbit (GEO) in 2018. The configurable payload allows for adapting to evolving demands in coverage, bandwidth, power and frequency configurability and will be able to alter the orbital position too, eliminating the need for launching an

of 450kg. It will be launched using conventional thruster propulsion and will have a designed lifespan of more than 15 years. The all Ku-band communications payload will use 5kW of power. The spacecraft's phased array antenna is being provided by Airbus's Spanish CASA division.

Communication capabilities of the telecommunication satellite

"The satellite, which will have the first fully-reconfigurable communications payload, is expected to be launched into

develop the first flexible Quantum satellite in July 2015. The satellite is being and constructed and assembled at the ESA's European Centre for Space Applications and Telecommunications (ECSAT) on the Harwell Campus in Oxfordshire, UK, and is expected to be delivered by 2018. Surrey Satellite Technology Limited (SSTL), a subsidiary of ADS, was contracted to build the GMP-T small satellite bus platform. Anaren was awarded a \$7m contract for providing advanced beamforming assembly to be deployed on the Eutelsat Quantum satellite programme, in January



entirely new satellite when a customer's business needs change.

Quantum satellite programme details

The Quantum satellite programme is part of the ESA Advanced Research in Telecommunications Systems (ARTES 33.3) programme supported by the UK Space Agency. Eutelsat Communications will commercialize and operate the satellite. Expected to serve government, mobility and data markets, the satellites developed under the programme will be cost-effective and quicker to build compared to the existing methods, which use generic subsystems and equipment.

Quantum satellite design and features

The first Quantum satellite will have a launch mass of 3,500kg and an all Ku-band communications payload mass

the geostationary equatorial orbit (GEO) in 2018." The Quantum satellite will feature software-defined receive and transmit coverages in Ku-band as well as on-board jamming detection and mitigation. It will offer dynamic beam shaping and vessel-tracking capabilities, which are useful to provide the power necessary for maritime, aeronautical and land-based transportation. The satellite will provide data networks including wide-area networks and dynamic traffic shaping. Governments can benefit from the rapid response offered by the satellite for public protection and disaster recovery.

Contractors involved with the development of Eutelsat's first Quantum satellite

Airbus Defence and Space (ADS) was awarded a €180m (\$198m) contract to

2016. The satellite will include a phased array antenna developed by Spanish CASA division of Airbus. SpaceX was selected to provide launch operations of the first Eutelsat Quantum satellite.

Marketing commentary on Eutelsat

Headquartered in Paris, France, Eutelsat Communications is a leading operator of communications satellites. The company has a fleet of more than 35 satellites with wide variety of customers including broadcasting organizations, pay-TV operators, internet service providers, and government agencies. It has a workforce of more than 1,000 people across 32 countries, and regional offices and teleports located worldwide.

LeoSat and Globalsat Group Sign Strategic Worldwide Agreement

LeoSat Enterprises, which is launching a constellation of up to 108 Low-Earth-Orbit (LEO) communications satellites, has entered into a strategic agreement with the Globalsat Group, a Pan-American satellite services provider, to market its HTS data network. Through this agreement, LeoSat will provide the Globalsat Group with access to infrastructure for the Globalsat LEO Network and the Globalsat Group will provide LeoSat with access to the Americas market, leveraging its presence and experience. LeoSat's new system of LEO communications satellites can deliver lower latency and stronger end-to-end security compared to traditional satellite and terrestrial solutions used today. This is achieved through a unique architecture utilizing inter-satellite laser links, creating an optical backbone in space with fiber-

like symmetry at gigabit per second speeds. It also provides unprecedented security as the data is encrypted from end-to-end across the network, with no terrestrial touch points. Alberto Palacios, CEO of Globalsat, will hold a seat in

representation of the Globalsat Group on the LeoSat Customer Technical Advisory Committee (CTAC). The committee will advise on system configuration, product design and launch of LeoSat's upcoming satellite constellation.



Yahsat, Talia Sign Long-Term, Multimillion-Dollar Partnership Agreement

Yahsat has announced the start of a strategic partnership with Talia, a teleport, satellite, and terrestrial network operator. Under the agreement, Talia is committed to capacity on Yahsat's upcoming Ka-band Al Yah 3 satellite, to be located at 20 degrees west when it launches next year, alongside existing services on the Y1B satellite. Talia has also signed its first customer on Yahsat's Y1B satellite. The Non Governmental

Organization (NGO) customer will be using the high bandwidth service with Newtec's MDM6000 Satellite IP Modems and integrating the additional capacity into their hybrid network. This includes coverage across multiple satellites and terrestrial fiber – all provided by Talia. As part of the agreement Talia will have access to Yahsat's latest Virtual Network Operator (VNO) services powered by its satellite broadband service, YahClick

from the Y1B satellite. "Having full control and management over their own capacity, delivers flexibility while providing them with high-speed and economical Ka-band capacity. In addition, Talia will be supported by our high-level technical team to offer far-reaching broadband coverage across the Middle East and Africa," said Farhad Khan, Yahsat's chief commercial officer.

Inmarsat Taps Aero-Satcom as Value-Added Reseller for Inmarsat GX Gov Aero Market

Aero-Satcom, the joint venture between Eclipse and NSSLGlobal, has signed an agreement with Inmarsat's global government business unit that appoints Aero-Satcom as a Global Xpress (GX) Value Added Reseller (VAR) for the government aero market outside of the U.S. After previously signing Swift Broadband and Swift 64 distribution agreements, the new contract allows

Aero-Satcom to work alongside local partners to offer Inmarsat's Ka-band services, according to a statement released by Inmarsat. Aero-Satcom's first provisioning of aeronautical GX services will be through a local-government-focused Inmarsat service provider for a fleet of Europe-based head of state aircraft. The head of state aircraft retrofit begins in December with

Aero-Satcom expecting the services to be fully operational from February 2017. The joint venture will support the delivery of onboard solutions developed by Eclipse that provide on-board bandwidth management, bandwidth optimization and credit card payments for passenger internet access.

Spacecom Signs Transponder Service Agreement for AsiaSat 8

After the loss of its Amos 6 satellite in a SpaceX Falcon 9 explosion, Spacecom has entered into a transponder service agreement with AsiaSat to use its in-orbit satellite AsiaSat 8, which will be relocated to an orbital slot as agreed with Spacecom. Exclusive rights to use all Ku-band transponders on AsiaSat 8 will be granted to Spacecom for a minimum of four years for the provision of commercial satellite communications services. AsiaSat will continue to be responsible for the satellite's tracking, telemetry and control functions. The service term is expected to commence

from the first quarter of 2017 subject to necessary regulatory approvals and satisfactory testing after the relocation. AsiaSat expects that Spacecom will become one of its top customers in terms of revenue contribution once the service term begins. "We are glad to strengthen our connection with AsiaSat. AsiaSat 8 satellite enables us to continue serving our customers at 4W orbital location following the end of life of Amos 2 and provide them with additional capacity and services," said David Pollack, CEO and president of Spacecom.



Air New Zealand Taps Inmarsat's GX Aviation for Connectivity

Air New Zealand has contracted Inmarsat to provide Global Xpress (GX) connectivity across the airline's long- and short-haul fleets. New Zealand will deploy Inmarsat's GX for Aviation, a globally available high-speed broadband network designed for mobility, with the aim to deliver an in-flight Wi-Fi experience to the airline

customers. Inmarsat will also integrate GX for Aviation connectivity with Air New Zealand's In-Flight Entertainment (IFE) system provided by In-Flight Connectivity (IFC) competitor Panasonic Avionics, a move specifically requested by Air New Zealand. The first GX-equipped aircraft are expected to begin proving flights in

the second half of 2017, with services progressively available on Tasman, Pacific and long-haul fleets from the end of next year. Inmarsat anticipates that domestic routes will be added to the connected fleet from 2018.

MVS USA Updates Satcom Network with Eye on Cybersecurity

With the aim to combat cyberthreats, satellite communications solutions provider MVS USA is upgrading its global satellite network with a focus on data security. Once completed, MVS service providers and customers will have access to a range of new features designed to keep data secure and allow users to more quickly identify and respond to breaches, according to a statement released by

the company. "Security is on everyone's mind and it's no different in the satellite industry where reliability, privacy and network availability is crucial," said MVS USA CEO Deborah Deffaa. "Our customers want assurances that the network itself is protected from a debilitating attack and that they can protect themselves and their users from cyberthreats." Once the network upgrade is completed during the

early part of 2017, MVS USA customers will have access to their own virtual network that, among other benefits, will allow them to monitor traffic using their own portal, according to the company. With customers operating their own virtual private networks, MVS USA says this will reduce the threat of an individual attack permeating the network.

Vietnam Builds Satellite-Based Global Positioning Stations

The Agency for Survey and Mapping under the Ministry of Natural Resources and Environment (MoNRE) has launched a project on building a network of satellite-based global positioning stations in Vietnam. It has also commenced the construction of the first satellite-based global positioning station at the Moc Chau Agricultural Meteorological Station

in Moc Chau district, the northern mountainous province of Son La. The station is one of the 65 Continuously Operating Reference Stations (CORS) to be built across the country, including 24 Geodetic CORS and 41 Network Real Time Kinematic CORS. The stations will continuously send satellite signals from global positioning systems to the

central station for processing. Phan Duc Hieu, head of the agency, said with the project, which is one of the agency's key projects during the 2016-2020 period, will contribute to boosting the application of new technology and increasing labor productivity in the survey and mapping area in Vietnam.

WHOLESALE NEWS

Five West African Countries Agree Free Roaming from Q1 2017

From March 31, 2017 roaming charges will no longer apply between the West African nations of Burkina Faso, Cote d'Ivoire, Guinea, Mali and Senegal, reports Senegalese paper *Le Soleil*. Regulators of the five states met on November 28 in Abidjan, Cote d'Ivoire, and signed a

memorandum of understanding (MoU) for the implementation of free roaming effective from the end of March next year. The idea of 'free roaming' is part of a wider plan to create a more united African continent as promoted by the Economic Community of West African States

(ECOWAS). The action in West Africa follows the 'One Network Area' scheme involving a number of East African nations such as Kenya, Rwanda and South Sudan, which was first implemented in October 2014.

EU Parliament Committee Adopts Lower wholesale Roaming Rates



The European Parliament's Committee on Industry, Research and Energy has adopted a proposal setting wholesale roaming rates lower than the prices proposed by the European Commission and EU member states. The committee approved the proposal from rapporteur and Finnish MEP Miapetra Kumpula-

Natri to cap wholesale prices at EUR 0.03 per minute and EUR 4 per GB from 15 June 2017, when roaming surcharges are set to end in the EU. This is below the EUR 0.04 per minute and EUR 0.0085 per MB (EUR 8.5 per GB) proposed by the European Commission and the EUR 10 per GB agreed by EU member

states' representatives last month. The committee approved the proposed SMS cap at 1 cent per message. Under the plan adopted by the ITRE, the wholesale date rate would fall gradually to EUR 3 per GB from July 2018, EUR 2 per GB from July 2019 and EUR 1 per GB from 2020. Kumpula-Natri said in her draft proposal that the EC's own research, by Tera Consultants, had calculated the actual cost of providing wholesale roaming data lower, at less than 0.5 cents per MB in all EU member states in 2017. This means the cap can be set lower, while still allow operators to recover their costs. Growing volumes will also help drive down costs. She also supported the glide path approach, rather than a fixed cap until 2022, saying this offers operators more certainty, rather the Commission's proposal to review the rates again in 2019. The ITRE's proposal must still be approved by the full parliament, and the European Council of telecom ministers will vote on the member states' own proposal on 02 December. The two bodies will then enter negotiations on reaching a compromise.

CRA Confirms New Fixed Voice Pricing

Bosnia's Communications Regulatory Agency (CRA) has approved fixed line voice pricing put forward by BH Telecom, Telekom Srpske and HT Mostar. With all three required to gain regulatory approval for their respective tariffs, prices for calls

to fixed networks must also be under the cap of BAM0.052 (USD0.028) per minute as per Regulation No. 67/2012. In line with that, it has been confirmed that from 1 January 2017 BH Telecom will introduce a single price for calls to fixed

networks of BAM0.042 per minute, while rivals Telekom Srpske and HT Mostar will charge customers BAM0.040 per minute and BAM0.048 per minute, respectively.

EU Ministers Approve New Wholesale Roaming Rates

The EU telecom ministers have approved new caps on wholesale roaming prices higher than those earlier agreed by a European Parliamentary committee. The Council of Ministers set the rates at EUR 0.0353 cent per minute, EUR 0.01 per SMS and EUR 0.01 per MB from June 2017, when all roaming retail surcharges will end in the EU. The data rate will fall on a glide path to EUR 0.005 per MB in June 2021, and all the rates would be evaluated in two years by the European

Commission. The amounts approved by the Council are higher than the current wholesale data rate of EUR 0.0085 and a cap of EUR 4 per GB, dropping to EUR 1 per GB in 2020 approved by the European Parliament's Committee on Industry, Research and Energy. Once the full parliament approves its position, it must enter into negotiations with the Council to reach a final position. The Council said it hopes to reach a quick agreement with Parliament so the end to retail roaming

charges can go ahead next June. The reduced wholesale rates are needed to ensure the new system is sustainable for operators. The minister also approved a mechanism for exceptional cases. If operators are not able to recover their costs, they may ask their national regulator for permission to apply a surcharge on top of the caps. However, even when exceptionally applying a surcharge, the total wholesale charge for data cannot exceed EUR 0.0085 per MB.

America Movil agrees Mexican Roaming Deal with Telefonica

America Movil's Mexican unit Telcel announced a national roaming agreement with Telefonica's Movistar, its closest competitor in the market. According to a brief statement, Telcel will provide Movistar customers access to its network in areas where it currently does not provide mobile coverage. The move will

no doubt allow Telefonica, the country's second largest player, to boost its 4G presence in Mexico. The move comes two years after Mexican regulator IFT implemented new regulations designed to reduce the dominance of America Movil in the country, which involved opening up the market to more competition, as well

as cutting national roaming charges. US operator AT&T entered the market last year, after acquiring two of the country's smaller operators, and has been steadily building up its presence. However, despite the efforts, America Movil's Telcel still controls approximately two thirds of the country's market share.

European Council Pushes Back on Wholesale Roaming Pricing

The European Council proposed to more than double the maximum wholesale price operators can charge for roaming data during a meeting. Earlier this week, MEPs proposed a limit on fees operators could charge each other for wholesale roaming data of €4 per GB in 2017, with the cost eventually falling to €1 per GB. However, during the session, the council upped these figures to €10 per GB by mid-2017 and €5 per GB by 2021. Costs for text messages were agreed at the European Parliament's level of €0.01. The

Council recommended a slight increase in the voice cap, from the proposed €0.03 to €0.035. Prior to the meeting, Finnish representative Anne Berner had outlined her intent to lower the caps, citing the risk of increased consumer prices at MEPs' recommended levels. Chair of the Council meeting and Slovak Minister for Transport, Construction and Regional Development, Arpád Érsek, emphasised the council's broad agreement with the reduction in wholesale prices to achieve the goal of lowering consumer

costs. She said: "Abolition of roaming charges is in the eyes of many the most concrete achievement of the Union. It is therefore of the utmost importance that we meet our citizens' expectations. I welcome today's swift decision by the Council to agree on wholesale roaming caps to enable negotiations with the European Parliament and make roam-like-at-home reality as of next year." The recommendations will now go back to MEPs for further debate.

OFCOM to Review Fixed Voice Retail Prices

British telecoms regulator OFCOM has announced plans to review the retail market for standalone landline telephone services. OFCOM noted that while it felt overall competition in the telecommunications sector remains strong, it said it was concerned that 'people who buy landline services on their own are not being served well by the market'. According to the watchdog, its analysis has shown that all of the UK's

major landline providers have increased their line rental charges significantly in recent years – by between 28% and 41% in real terms – despite benefitting from an approximate 25% fall in the underlying wholesale cost of providing a landline service. The regulator said it expects to publish a consultation on the matter in early 2017. OFCOM's announcement was made within a consultation covering its separate review of the wholesale markets

that underpin fixed voice services in the UK. This consultation, which closes on February 28, 2017 and aims to finalize regulation which will apply from October 1, 2017 to September 30, 2020, is examining the following markets: wholesale exchange lines, ISDN (Integrated Services Digital Network), call origination and call termination.

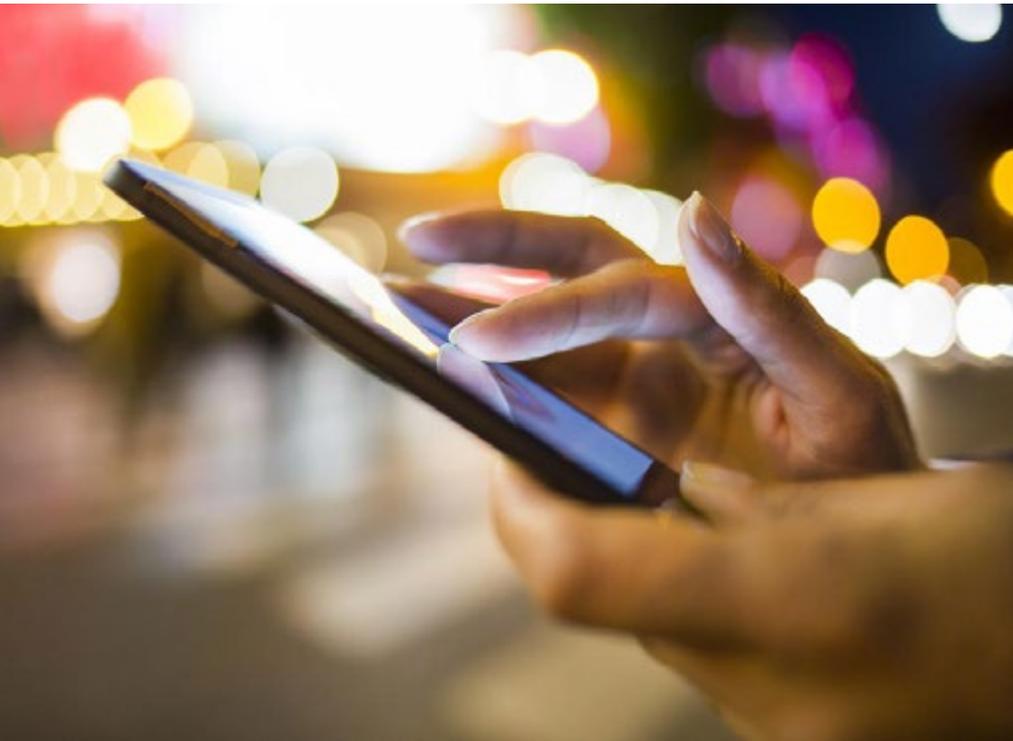
PTS tells Telia to Change Zero-rated Social Media Offer

Swedish postal and telecoms regulator PTS said it will issue an injunction ordering Telia Company to comply with rules on zero-rated internet traffic. PTS said that under EU regulations, all web traffic must be treated equally, once consumers have used up all the data included in their subscription. PTS is of the opinion that Telia applies traffic management measures in its "Free surf on social media" and "Free surf listening" offers that infringe the EU regulation stating that ISPs must treat all web traffic equally. The watchdog's stance is

based on the fact that certain services or applications in those offers are excluded from the data cap that applies to the underlying internet access service as a whole. This implies that when the data volume is consumed, all internet traffic is being blocked, except for such services and applications that form part of the relevant offers. According to PTS, this should be regarded as unlawful traffic management. PTS is now publishing a draft decision, declaring its intent to issue an injunction on Telia to treat all traffic equally once the data cap is reached.

In a similar case regarding 3 Sweden's offer "Free surf for music streaming", Hutchison unit Tre has now informed PTS that it will change the service in future, to avoid violating the regulation. PTS said it takes a positive view of Tre's decision and will closely follow this development to ensure that the necessary changes are implemented. PTS added that the EU regulation also stipulates how various commercial practices may affect customers' ability to access an open internet, which is not the primary focus of the current examination.

Russian Authorities Try once more to Abolish on-net Roaming Charges



The Federal Antimonopoly Service (FAS) of Russia is determined to repeal on-net domestic regional mobile roaming charges next year, reports Tdaily. Deputy head of the FAS Anatoly Golomolzin stated that the FAS has reached an agreement

with the Ministry of Communications (MinSvyaz) and the Russian Federal Service for Surveillance on Consumer Rights Protection & Human Wellbeing (Rospotrebnadzor) on revoking intra-network roaming charges when moving

from one Russian region to another, as the practice is at odds with the general regulatory framework, whilst predicting that the process to abolish the charges will take 'about six months' including adjusting the corresponding article 52 of the telecoms law 'On Communication'. The FAS official added that Russian cellco MegaFon is actively involved in the FAS meetings on roaming and has openly agreed that 'intra-network roaming' should be retired as a concept. Rival operator VimpelCom (Beeline) is also participating in the FAS meetings, and simply said: 'We are studying their [FAS] proposals.' The other cellco in the Russian 'big three', Mobile TeleSystems (MTS) did not provide a public comment on the matter, whilst fourth-placed operator Tele2 said that it supports the push for abolition of national roaming, but noted that the impact on company costs must be studied when changing roaming/charging rules. Tdaily adds that the FAS previously requested that the Ministry cancel on-net roaming charges in September this year, whilst a motion to this effect has previously been put before parliament (State Duma) but the draft amendments were not read by MPs.

ARTICLE

VoLTE Emerges as Mission-Critical Technology for Operators in 2017

VoLTE, or Voice over Long Term Evolution, is rapidly revolutionizing voice service for mobile communications. Most voice calls still use 3G networks, but in the next few years operators are expected to make a massive transition to VoLTE. This will eliminate the need to have voice and data on separate networks and open a new era of integration for next-generation voice services.

But making the transition to this new standard involves new equipment, new roaming partnership agreements, and new services and pricing, among a host of other major changes. In particular, it will be imperative for operators to keep pace with their competitors' implementation of VoLTE while at the same time maintaining their current quality of voice service that users expect.

At Syniverse, we've been right in the middle of helping operators navigate this transition, and over the past year, we've held a series of special VoLTE webinars focusing on aspects such as roaming, interconnect, and clearing and charging. In addition to the sessions themselves, the questions and answers we've addressed following each webinar particularly have shed light on important lessons learned and best practices that we think can help guide many operators in their VoLTE transition. In this article, I've compiled some of the most important of these below.

The insights offer useful guidance for a technology rapidly gaining ground. As of October, over 150 operators in 72 countries had invested in VoLTE, according to a report by the Global Mobile Suppliers Association, including over 90 operators that had commercially launched VoLTE services in 52 countries. Moreover, the number of VoLTE subscriptions is expected to exceed 200 million by 2017, and then hit over 3 billion by 2022, according to the latest Ericsson Mobility Report. It's critical that operators prepare for this major transition thoroughly.

**Nour Al Atassi**

Regional Vice President and
Managing Director, Middle East and Africa
Syniverse

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Selected Questions and Answers from Syniverse's 2016 VoLTE Webinars

Are there any operators doing VoLTE interconnect trials, and are there any commercial deployments?

Over the past few years, we've been fully immersed with VoLTE trials, and they've primarily been roaming trials. As operators have deployed their IMS cores, they have really been focused on getting the service to work in their home market first. Once they have done that, their next priority has been ensuring that their subscribers have the same quality of experience when they roam outside their home network. As a result, a lot of the trials that we've been involved with so far have pertained to roaming. However, we're currently involved with a number of interconnect trials in North America as well as other regions, and this number is starting to accelerate as operators are increasingly making it a priority to provide IMS services like VoLTE, ViLTE and RCS. Many of them want to deploy these services this year and get their trials underway. So, although we've had a number of commercial launches for VoLTE roaming, I expect to see a launch for VoLTE interconnect here in the near future.

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A challenge for VoLTE interconnect is number portability management. How is this handled?

The GSMA is considering some options for number portability resolution and working on an industrywide solution for this now. I think where we're heading is that we'll see independent IPX providers implement a variety of number portability resolution

methods. For instance, we could rely on local number portability data local within a network or home country to provide number portability resolution. Or we could rely on third-party number portability sources on a per transaction basis. These options aren't fully defined yet from an industry perspective, but at Syniverse we have developed our own views internally and our own solutions for addressing this problem.

What impact does VoWiFi have for IMS?

This is an extremely timely question because we've been seeing a lot of movement with VoWiFi. It's a technology that's been around for a long time. There was an effort to standardize it about a decade ago in an initiative called UMA, which was adopted by some operators but not widely. But the big game-changer was a combination of the 3GPP introducing a component called an EPDG and the large OEMs integrating this functionality into their devices. What an EPDG does is allow untrusted Internet access – that is, Wi-Fi – into an operator's IMS core. So, this enables a single IMS framework for VoLTE, ViLTE, RCS, etc., and it also enables a bridge to VoWiFi. Another benefit is that things like single radio voice call continuity or handover from one network to another are possible. And one more benefit is that HD-quality calls can be enabled between VoWiFi subscribers to VoLTE subscribers.

What is the impact of local breakout on charging?

From a wholesale billing perspective, the MESS and MSG TAP records introduced in TAP3.12 will be used for wholesale billing of voice and SMS-supported via local breakout. IMS accounting records can be generated from both the visited P-CSCF and home S-CSCF. The VPMN may create call detail records (CDRs) from either the S-Gateway or the P-Gateway. These CDRs, however, do not contain all of the information that is needed to create a TAP3.12 call session record, so another CDR must also be sent to the offline charging system from the P-CSCF.

We're currently involved with a number of interconnect trials in North America as well as other regions, and this number is starting to accelerate as operators are increasingly making it a priority to provide IMS services like VoLTE, ViLTE and RCS.

Single Radio Voice Call Continuity (SRVCC) is needed to support circuit-switched (CS) calls for VoLTE handoff, and this is not available with S8 home routing (S8HR). Could you explain?

SRVCC is available with S8HR, but it is challenging. A change request has to be submitted to IR.65 to clarify SRVCC for S8HR. It requires that an IMS interconnection be in place between the roaming partners. If an IMS interconnection is not in place and ISUP interconnect is in place between roaming partners, then Codec renegotiation for network Release 10 and above is needed, if media are anchored in the ATGW and the ATCF enhancement is used. MSS/MGCF configuration based on the STN-SR information coming on the international ISUP NNI is required for network Release 10 and above, if media is not anchored in the ATGW. 📌



Transform the Mobile Experience



As mobile user expectations continue to grow, it's crucial to deliver high-quality experiences. Syniverse can help you keep your customers satisfied by enabling you to do the following:

- Smoothly implement LTE by maximizing reach, and enabling interoperability and VoLTE
- Gain a 360-degree view of the subscriber experience to resolve issues proactively
- Offer your enterprise customers services that enable business-to-employee communications, improve relevance of mobile interactions, and increase engagement

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TECHNOLOGY NEWS

Telecom Italia to Pilot 5G Network in Turin

Turin city council has confirmed that Telecom Italia (TIM) will debut its 5G network in the northern Italian city next year and connect 3,000 users by 2018. "Turin will be the first city in Italy to experience a 5G network thanks to an agreement signed by TIM and smart city councilor Paola Pisano," announced Turin mayor Charia Appendino, according to website Cor.com. The announcement comes after TIM joined forces with Cisco-backed startup Altiostar to conduct the first live test of a virtual radio access network (vRAN) in Europe at TIM's Turin innovation labs. The company described the live test as an important milestone on the road to 5G, making it possible to fully exploit LTE-advanced (LTE-A) functionalities by coordinating signals from various radio base stations located more than 60 kilometers away. Last month, Telecom Italia chairman Giuseppe



Recchi revealed that the company was looking to choose the first trial city for the rollout of 5G services. "We are currently considering which northern cities to

choose to start trials of 5G, to ensure that we have the first city covered with this technology in 2020," he said at the Global 5G Event in Rome.

Ericsson, Qualcomm, SK Telecom Partner on 5G NR Trials

Ericsson, Qualcomm Technologies, and SK Telecom announced plans to conduct interoperability testing and over-the-air field trials based on 5G New Radio (NR) standards being developed based on specifications in 3GPP. The trials intend to drive the mobile ecosystem toward rapid validation and commercialization of 5G NR technologies at scale, enabling timely commercial network launches based on 3GPP Rel-15 standard compliant 5G NR infrastructure and devices. In the trials, the companies will showcase new 5G NR technologies that use wide

bandwidths available at higher frequency bands to increase network capacity and achieve multi-gigabit per second data rates. These technologies will be critical to meeting the increasing consumer connectivity requirements for emerging consumer mobile broadband experiences such as VR, AR and connected cloud services. In addition, the proliferation of 5G NR technology can make it more cost-effective and easier for multi-gigabit internet service to reach more homes and businesses. The interoperability testing and trials, which will launch in Korea

starting in H2 2017 are intended to track closely with, as well as help accelerate, the first 3GPP 5G NR specification that will be part of Release 15, the global 5G standard that will make use of both sub-6 GHz and mmWave spectrum bands. Tracking the 3GPP specification is important because it promotes adherence and validation with the global 5G standard, accelerating the time to standard-compliant devices and infrastructure. It will also drive forward compatibility to future 3GPP 5G NR releases.

Digital Security to Create IoT Security Standard

Digital Security, part of the Econocom Group company, has announced the creation of the IoT Qualified Security standard, a reliable, impartial assessment of the level of security for connected systems. The company said the certification programme will be available

for all IoT industry players from the first quarter of next year. Digital Security called attention to studies estimating there will be 25-100 billion connected objects worldwide by 2020 and the consequent need for security standards and a security certification label. Digital Security said

the monitoring programme will take into account vulnerabilities identified in the IoT ecosystems as well as cybersecurity best practices. The company will use the evaluation platform developed by CERT-UBIK, the first CERT 2 specializing in IoT security.

IEEE Launches 5G Initiative

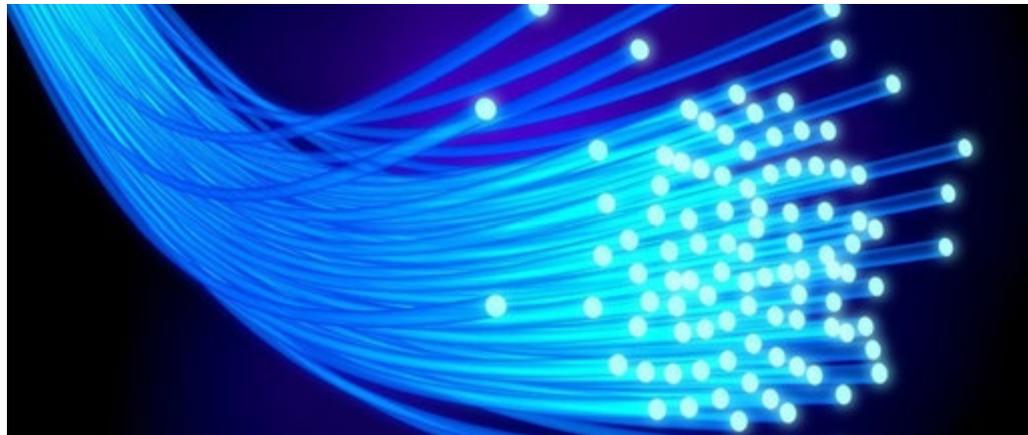
IEEE launched the IEEE 5G Initiative, a programme whose aim is to engage professionals worldwide from industry, government, and academia to work to solve the challenges associated with 5G and lay the foundation to realize its many opportunities. The IEEE 5G Initiative, which includes contributions from many IEEE societies, has several working groups for which it seeks volunteers from both industry and academia to

participate. IEEE 5G Initiative working groups are focused around activities like its 5G Roadmap project, which will identify short (~3 years), mid-term (~5 years), and long-term (~10 years) research, innovation, and technology trends in the communications ecosystem for the purpose of establishing a living document with a clear set of recommendations. Other working groups will develop standards, organize events

and conferences such as the IEEE 5G Summits and IEEE 5G World Forum to convene professionals working on 5G, establish educational materials, conduct 5G training, and contribute to publications such as magazines and journals. Ashutosh Dutta and Gerhard Fettweis are the co-chairs of the IEEE 5G Initiative. Interested professionals may also join the IEEE 5G Technical Community.

Du and Nokia trial 40Gbps Fiber Technology

United Arab Emirates (UAE) operator Du and equipment vendor Nokia have carried out a successful lab trial of time and wavelength division multiplexing passive optical network (TWDM-PON) fiber technology, reaching aggregate speeds of 40Gbps. Du says the test paves the way for the implementation of 5G and Internet of Things (IoT) systems, and will help Dubai to become a smart city role model. Du currently offers peak download speeds of 1Gbps on its commercial fiber access networks.



BT inks 5G research Partnership with Huawei

BT and Huawei Technologies have entered into a new partnership under which they intend to 'conduct pioneering joint research into 5G, considering how faster mobile communication technologies might be applied, as well as the technical and commercial feasibility of deploying them'. Under the plans, BT and Huawei will work together at the former's BT Labs in Ipswich and other locations around

the UK to explore various aspects of 5G, including: network architecture; a new air interface between devices and base stations; network slicing; machine-to-machine (M2M) communications in Internet of Things (IoT) applications; and security technologies. The companies said they hope that this research will drive the development and standardization of 5G technologies throughout the industry.

BT CEO Gavin Patterson said of the tie-up: 'We are determined to maximize the potential of 5G for our customers, so collaborative research has a key role to play as the technology develops. This partnership with Huawei will see us explore the potential uses and make sure 5G is designed to meet the needs of our consumer and business customers throughout the world.'

Telenor Denmark Launches VoLTE and VoWi-Fi

Telenor Denmark has launched voice-over-LTE (VoLTE) and voice-over-Wi-Fi (VoWi-Fi) over its 4G/Wi-Fi networks, after trialing the technologies during the summer. The services are available to customers with the most recent iPhone

models (iPhone 6, 6 Plus, 6S, 6S Plus, SE, iPhone 7 and 7 Plus) and selected Samsung handsets (Galaxy GS5, GS6, GS6 Edge, GS7 and GS7 Edge). The new services will benefit subscribers with poor indoor reception, and will provide

higher voice call quality and shorter call times. The combination of the two technologies will also provide users with seamless service, as the calls will be automatically switched between LTE and Wi-Fi networks depending on availability.

A1 and Nokia Demo 500Mbps 3C Mobile Data Speeds

A1 Telekom Austria has demonstrated mobile data transmission rates of 513Mbps in cooperation with technology vendor Nokia, paving the way for the future introduction of 5G. The higher

speeds were achieved by using tri-carrier aggregation (3C) technology in the 2600MHz, 1800MHz and 800MHz frequency bands, in combination with 256 QAM functionality. A1's CTO Marcus

Grausam said the company would begin rolling out 3C LTE in high traffic and urban areas next year, as soon as sufficient compatible devices become commercial available.

Nokia Updates 5G and Small Cell Roadmap in Latest Missive

Nokia is looking to showcase its 5G roadmap and unveil technologies that will "be the basis of the next generation of dynamic networks", the company has said. At the upcoming IEEE Globecom 2016 event, Nokia will demonstrate how operators can maximize resources such as spectrum to deliver the vastly increased capacity and speed required to serve the expanded 'fabric' of connected people, machines and devices expected in the 5G era. The company will be using its latest 5G-ready AirScale radio portfolio and commercial introduce 4.5G Pro to show various complementary innovations that will form the basis of dynamic, intelligent and sustainable 5G networks of the future. Nokia Bell Labs will present its Intelligent Traffic Steering highlighting how operators can deliver and dramatically enhance the user experience by leveraging multiple access technologies simultaneously to optimize traffic paths. Visitors will also be able to see a breakthrough in small cell technology, the Nokia Bell Labs F-Cell, which will allow operators to deliver additional network capacity, lower latency and lower network power consumption



through greater flexibility, efficiency and deployment optimization. Hossein Moiin, Chief Technology Officer of the Mobile Networks at Nokia, said: "We have defined a technology path to 5G that will allow operators to deliver enhancements in capacity and speed and take advantage of the new possibilities created by the connected world. While mobile broadband

demand will continue to be driven by use of ultra-high definition video, the ever-growing number of connected machines as well as the need for low-latency and ultra-reliable networks will drive the creation of new opportunities for mobile communications networks."

Vodafone, Nokia Carry out C-RAN Trial

Vodafone and Nokia on Monday announced the successful completion of a cloud radio access network (C-RAN) trial. The Finnish vendor's C-RAN architecture splits baseband processing assets between real-time and non-real-time functions. This enables time-critical functions to be performed closer to end users at the edge of the network, while non-time-critical functions are centralized and virtualized, offering better network visibility and allowing radio capacity to be dynamically scaled up and allocated.

During the trial, the virtualized infrastructure met Vodafone's requirements for capacity and resiliency, but with added agility, scalability and efficiency. "Working with Nokia on this trial we have seen how the application of cloud RAN architecture can help the network react to changing demands quickly," said Santiago Tenorio, head of networks at Vodafone. The trial took place at Vodafone's testing facility in Italy, and evaluated the performance of Nokia's AirScale cloud base station server and AirFrame data centre platform.

Nokia engineers worked with Vodafone to prepare execute and validate the results of the trial. "Our cloud RAN technology can help operators optimise network performance even as they cope with the increasing demands being placed upon them," said Roberto Loiola, who heads up Nokia's Vodafone account. Vodafone and Nokia said they plan to continue collaborating on virtualised infrastructure with a view to deploying the technology commercially.

HMD Completes Takeover of Rights to Nokia Brand Phones

Microsoft has completed the sale of the former Nokia feature phone business to FIH Mobile and HMD Global, the new company set up to develop Nokia-branded mobile phones. Nokia confirmed that the agreement to grant the new company rights to the Nokia brand and intellectual property for ten years has come into force, meaning Microsoft will no longer be able to offer Nokia phones. In addition to continuing the feature phones,

HMD plans to develop Smartphones and tablets under the Nokia name, using the Android OS. HMD said the first Smartphones are expected to launch in the first half of 2017. FIH Mobile, part of Foxconn Technology, will handle the manufacturing and distribution of the Nokia-branded phones under an agreement with HMD. Samuel W. L. Chin, a former CEO of Foxconn International, is chairman and co-founder of HMD,

servicing alongside a number of former Nokia executives. FIH confirmed that it has completed the acquisition of the related assets from Microsoft. Compared to the original agreement announced in May, the final deal was modified slightly to add some R&D and manufacturing components to the purchase, while excluding part of the franchise and after-sales elements of the assets.

China Mobile Outlines 5G Timeline

China Mobile, the world's largest mobile operator with 850 million subscribers, outlined its 5G deployment schedule at a meeting of the IMT-2020 5G Promotion Group, with an initial focus on the sub-6GHz band. The operator next year will select four to five cities where it will set up facilities for system verification and development of pre-commercial prototypes, according to C114.net. It will turn its focus to high-frequency bands (above 6GHz) after about 18 months. China Mobile aims to build about 20 sites in each of several cities in 2018 for large-scale tests and develop end-

to-end commercial products and a pre-commercial network, C114.net reported. The next year it will expand the scale of the 5G trial network and in 2020 targets deploying 10,000 5G base stations, which will allow it to launch commercial 5G services. The country's IMT-2020 (5G) Promotion Group last week announced technical specifications for the second phase of 5G tests. According to the Ministry of Industry and Information Technology (MIIT), China will accomplish 5G technology R&D tests in 2016-2018 and carry out product R&D tests in 2018-2020. The general industry consensus

is to bring 5G to the market in 2020, with Phase 1 standardization of 5G set for completion sometime in 2018. But operators in South Korea aim to bring the next-generation of mobile networks to the market in time for the 2018 Winter Olympics in Pyeongchang. And a month ago Mobile World Live reported that South Korea's second largest operator KT plans to be the first to commercialize 5G in 2019, a year earlier than its previously stated target, and believes the standards used for the 2018 Winter Olympics will become the de facto 5G standards.

Ericsson Launches Verified NFV Infrastructure Services

Ericsson has announced the launch of its verified network functions virtualization (NFV) solution, known as NFVi, which supports software defined infrastructure, as well as helps provide the building blocks for 5G and IoT infrastructure. The move will align with various aspects of Ericsson's current service portfolio, including its hyperscale data centre system, cloud SDN as well as its Cloud Execution Environment and Cloud Manager, as well as other consulting, system integration and support services. The company already has NFV contracts and initiatives in place with a variety of operators, including Telstra, Telefonica, SoftBank, and Swisscom, whose head of network and data centre development

Richard Schenk noted that the move will help "bring services which we do not know today, as in the IoT environment." "Ericsson's NFVi solution is an important step on our journey to building the infrastructure for 5G and the Internet of Things," said Susan James, Ericsson head of product line for NFV infrastructure in a statement. "By offering a flexible, pre-integrated and verified open system platform, we can provide our customers with several different deployment options ranging all the way from full decoupling of NFV components to full stack solution deployment. "This provides a shorter time to market, with increased speed, agility and efficiency for our customers deploying new services," James added.

Writing for this publication last month Marina Kurth, research director at analyst firm Gartner, argued that the biggest challenge for Ericsson going forward, as well as other players of its ilk, is to 'operationalise and monetize' new cloud-based technologies, such as SDN and NFV. "Ericsson has the chance to become one of the few complete end-to-end stack vendors in the industry," wrote Kurth. "However, it needs to become a facilitator that helps to overcome the challenges between business strategy, technology and operational planning. "This means it must itself make the cultural shift to [a] new digital development and operations paradigm," Kurth added.

ARTICLE

Journey of Seeking Maturity in IT Jungle

Introduction

IT today is a journey full of exciting challenges and adventures. On this journey to achieve high quality of services, some stations are central and important, and worth a stop to highlight and discuss lessons learned. In this article I would like to elaborate on some points from these stations.

Steering tools for organization

The IT organization is typically a controlled system so that IT managers need to find a steering wheel, buttons and knobs to drive it. These control elements can be available when a solid ITSM (IT Service Management) platform with a well-defined process topology is established. Every business unit manager is a process owner and should own the level of competence and understanding to handle and control the processes underlying his organization and the acumen to interface with the surrounding processes. These competences and skills are critical to drive the organization safely even on the windy and bumpy road of business operations.

This is now a matter of fact for most IT managers, but the lack of experience in this field leads to an underestimation of ITSM standards and their smart implementation for the real and practical business needs.

Committing to Service Orientation

The term "Service Orientation" is widely spread in the IT business world. Mature organizations should show real understanding and correct deployment of a functional Service Orientation.

Yes, it is challenging since a surfeit of focused efforts is necessary to reach an optimum service orientation. Customer focus and satisfaction are at the core of this dilemma. The balance between profitability, investment, cost savings, capacity optimization on the one hand and achieving high level of customer satisfaction on the other is the key challenge here. The solution to achieve this balance, while managing each of the competing factors, lies in a smart ITSMF platform.



IT expert with more than 20 years of experience in IT solutions and services. Worked at Siemens IT solutions, CGI consulting (Germany), Vodafone Group and Ericsson. Managed number of IT projects and organisations in Europe, Asia and Africa. His current role includes responsibility of IT in Sudatel group and its subsidiaries.

Tarig Khalil

CIO

Sudatel Telecom Group



The IT industry depends strongly on service sciences across the entire delivery chain to target customers, even if this is not always tangible or even clear for some of the actors in the service chain.

The balance between profitability, investment, cost savings, capacity optimization on the one hand and achieving high level of customer satisfaction on the other is the key challenge here. The solution to achieve this balance, while managing each of the competing factors, lies in a smart ITSMF platform.

An important but less expensive factor IT leaders can tune to improve the customer service orientation is the Team by raising team awareness and boost a customer-oriented culture!

Thus, the service orientation principal is part and parcel of the strategy, internal awareness and team development programs. It is even more important given that some employees may be negatively biased as part of a monopoly (as is often the case for telecom operators) or from being a unique provider of services in the market. Little or no market competition can jade a culture eventually rendering a service culture irrelevant. This is dangerous. It is especially the duty of the IT Managers overcome this bias within the IT. While intense market competition is a key to a performance culture, all IT managers must find the best motivator for a higher level of customer focus within their specific circumstances.

Working with the team to live and grow a customer-focused culture can turn all service KPIs in a short time to their best values. In addition, an all-out focus on the customer fosters a better team spirit and an overall healthy business culture.

Internal customers versus external customers

It is quite common that the IT department inside an organization supports the core business of that organization. Thus, IT serves the internal business customers rather than external ones. However, there is no real difference in service orientation, service quality or commitment. Falling short of this by providing internal customers with a low quality service has a domino effect across the chain that eventually impacts the end-customer. As the SLA committed with the end customer is usually negotiated based on the cumulated OLA's with internal service providers, including IT in our case. However, not all internal services have same importance and priority, i.e. a close alignment with business priorities is required to agree on the service quality required before committing to it.

New Digitization and ICT transformation questions

IoT, M2M, Mobile Business, Big Data and analytics, are all fast growing and evolving fields that are inextricably linked to IT and put additional challenges on to the IT leader. IT departments need to face head on these challenges by providing solid ITSM processes and tools to support the evolving business models while rapidly fulfilling the growing business needs created by these new fields. Not to be missed, IT has the opportunity to make capitalize on the benefits offered by these technologies through the ITSM platform to keep a superior level of service delivery.

This last point elaborates the need for leveraging the capabilities of conventional ITSM processes like incident management, service desk (or even call centers) by deploying these new technologies and tools. IoT, for example, creates useful data collected from the devices communicating on the internet. Device sensors can stream alarms to the service desk allowing for early proactive and preventive actions, which avoids escalation all the while improving KPI's. Another example would be in Big Data that collects and retrieves volumes of data from IoT devices, which can build a smart knowledge base or CMDB to increase the efficiency of resolving

IoT, M2M, Mobile Business, Big Data and analytics, are all fast growing and evolving fields that are inextricably linked to IT and put additional challenges on to the IT leader. IT departments need to face head on these challenges by providing solid ITSM processes and tools to support the evolving business models while rapidly fulfilling the growing business needs created by these new fields.

incidents and improve the control of the operating environment.

Conclusion

The IT road is perhaps windy and bumpy, fraught with exciting new technologies, but with ITSM the IT leader can navigate the IT service strategy to exceed customer expectations, whether internal or external, and achieve superior business KPI's. 📌

REGULATORY NEWS

Egyptian Court Confirms ECA can Investigate Monopoly Issues in Telecoms Sectors

An Egyptian administrative court has ruled that the country's antitrust watchdog, the Egyptian Competition Authority (ECA), is authorized to examine monopolistic practices in the telecoms sector, *Ahram Online* reports, citing a

statement from the ECA. It is understood that the case was filed by local mobile network operator (MNO) Orange Egypt (formerly MobiNil), which claimed that the ECA did not have the right to refer communications providers to court.

The cellco had claimed that by doing so the ECA was trespassing on the authority of local telecoms regulator the National Telecommunications Regulatory Authority (NTRA).

TRAI Recommends Government to Fund 100 MB Data Per Month for Rural Consumers



After barring contentious programmes like Facebook's Free Basics and Airtel Zero, telecom regulator TRAI on Monday recommended government to fund around 100 MB data per month for rural consumers and mooted introduction of third party platforms to provide free internet in a non-discriminatory manner to promote digital economy. The regulator has given clean chit to model of providing data credit in subscriber's account as reward if "it is structured in a manner that is open and non-discriminatory." "In order to bridge the affordability gap for the persons residing in rural areas and to support government's efforts towards cashless economy by incentivizing digital means, the Authority recommends that a scheme under which a reasonable amount

of data, say 100 MB per month, may be made available to rural subscribers for free," TRAI said. The Telecom Regulatory Authority of India estimates 100 Megabyte (MB) free data for 50 million rural subscribers in a month would cost Rs 600 crore. The regulator has suggested that the cost of implementation of the scheme may be met from Universal Service Obligation Fund (USOF) -- which is meant to promote telecom services in rural areas. Under USOF, the government charges in the form of Universal Access Levy, from telecom licensees to fund setting up of telecom infrastructure in all uncovered rural and remote areas of the country. "It is a good start. Anything sustains if subscribers understand its value and then they start paying for it.

With 100 MB of data, our wallet user can make thousands of transaction which is more than enough," MobiKwik COO Mrinal Sinha said. For third party aggregator platforms, the regulator has cautioned the data through aggregator should not be designed to circumvent 'The Prohibition of Discriminatory Tariffs for Data Services Regulations' which bars operators from entering into exclusive pacts with internet companies to subsidize their access. However, net neutrality volunteers see loophole in TRAI's aggregator model and feel that it leaves room for zero rating model. "Government subsidizing data for subscribers is a great step. However, aggregator model would lead to violation of differential pricing regulation. Whether you give data back immediately or later, it will be same a zero rating platform," Internet Freedom Foundation, Co-founder Nikhil Pahwa said. Zero-rating, is a term that is generally used to describe schemes that provide free access to data services for subscribers of a particular service provider for accessing specific content. TRAI in February barred differential pricing on Internet which ended services of platforms like Facebook's Free Basics and Airtel Zero. The regulator also released a consultation paper in May where it explored the reward model, toll free model, Direct Money Transfer Model for provision of free data services.

EU Negotiators Agree to Coordinate 700MHz use

The European Parliament, the European Council and the European Commission have agreed on how to coordinate the use of the 700MHz spectrum band, as part of a wider plan to facilitate the introduction of 5G mobile technology by 2020. The agreement, which focuses on the ultra-high frequency (UHF) band (470MHz-790MHz), including the 700MHz band (694-790 MHz), builds on a proposal presented by the Commission in February 2016. It also represents the first deal made under the Digital Single Market strategy, as presented by the Commission

in May 2015. As per the terms of the pact, the 700MHz band should be assigned to mobile operators and made available for wireless broadband use by 30 June 2020 at the latest in all EU Member states, although duly justified exceptions are possible until 30 June 2022. Further, EU member states will adopt and make public their national plans for releasing this band by 30 June 2018. They will need also to conclude cross-border coordination agreements by the end of 2017. In the sub-700MHz band (470MHz-694MHz) meanwhile, long-term priority

is given to broadcasting use until 2030. Andrus Ansip, Vice-President for the Digital Single Market, commented: 'Better spectrum coordination is vital to provide higher quality internet to all Europeans. It paves the way for 5G, the next generation of communication networks, and the internet of things (IoT). We made a first step today with a joint approach to use the 700MHz band in the EU. We should go further and this is one of the main objectives of our new Electronic Communications Code and 5G action plan presented earlier this year.'

CTIA, CCA Blast FCC for Slipping Cybersecurity Rule into 5G Order

Both CTIA and the Competitive Carriers Association (CCA), which don't always see eye-to-eye on wireless regulatory issues, agree on one thing: The FCC's proposal to require millimeter wave (mmWave) licensees to disclose network security plans is a bad idea. Actually, both organizations say it violates the Administrative Procedure Act (APA) because the FCC did not propose the rule in its original Notice of Proposed Rulemaking (NPRM), where entities like CTIA and CCA could have voiced their objections. Instead, they say the commission barely mentioned a security obligation in a "fact sheet" that was published less than a month before the order was adopted. The requirement appears as Rule 30.8, published in the Federal Register on Nov. 14, and states that each licensee is required to submit to the FCC a statement describing its network security plans and related information, which must be signed by a senior executive within the licensee's organization with personal knowledge of the security plans and practices within the licensee's organization. It also spells out other specific requirements. "The lengthy and complex NPRM raised numerous issues, but contained no discussion of Rule 30.8. Nor did the rule appear in the NPRM's appendix of proposed rules or in the [Jan. 13, 2016] Federal Register notice," CTIA said in its Dec. 14 filing with the FCC. "The Commission failed to seek comment even on whether to impose

a requirement at all. The NPRM merely sought comment on 'how to ensure that effective security features are built into key design principles for all mmW band communications devices and networks' without setting forth any specific proposals." CTIA, which represents the largest U.S. carriers, spelled out a host of arguments against the rule, including that Rule 30.8 "threatens security by publicizing information that can help bad actors. Network providers take pains to not reveal security plans, system architectures, or the tools they use. Public dissemination of even 'high level' network security plans risks exacerbating threats." CCA, in its December 14 commentary, said the cybersecurity requirements will saddle carriers with administrative and competitive burdens and should be rejected. In addition, "the obligations that will be imposed on mmW licensees are discriminatory and against the public interest as there are no similar obligations currently imposed on licensees in other spectrum bands or on wireline providers. Further, there is no record evidence that mmW technology poses a higher risk than any other use of spectrum." CCA, which represents smaller and regional U.S. carriers, further states that licensees, especially wireless licensees, are not the appropriate party to make cybersecurity disclosures. Rather, "OEMs are in the business of constructing and selling network infrastructure and would be in the best position to provide security

information." In a separate December 14 filing, T-Mobile echoed the sentiment that the cybersecurity statement requirement is unreasonably discriminatory as it's being applied only to millimeter wave band licensees despite any evidence in the record that security is a unique concern for them. "T-Mobile does not dispute the importance of security in the millimeter wave bands or other bands, but the lack of any justification for this mechanism or discussion of its effectiveness or appropriateness prevents the Commission from adopting rules imposing new regulatory burdens on licensees," the carrier said. "Security protocols are best developed in response to customer demands by industry through standards-setting bodies or otherwise. Providers of wireless communications services have ample incentive to ensure that their networks are sufficiently protected. There is no need for the Commission to unnecessarily insert itself into network design." However, if the FCC believes a cybersecurity statement requirement is within its authority and necessary, it should initiate a separate rulemaking proceeding to ensure that interested parties have the necessary procedural opportunities to evaluate the proposal, T-Mobile said, adding that would ensure the commission and the public get a full opportunity to analyze its implications in accordance with the APA.

TRAI Wishes to Provide Broadband to 500 Million People Via Cable TV

Telecom regulator TRAI Chairman R S Sharma today said broadband connectivity to 500 million people can be provided in a short span of time by leveraging digital cable TV network. "We have made a number of recommendation and our recommendations if followed could transform our ranking which is abysmally low," Sharma said at Skoch Summit. He said that there are 100 million homes in India connected with digital cable TV. "The cable TV connection will become digital. If you

have 100 million homes where you take this digital, these 100 million homes with same pipe with little bit of up gradation can be used for delivery of robust broadband connectivity," Sharma said. He said that recommendation in this regard has been sent by the Telecom Regulatory Authority of India. "We have been following it with the Department of Telecom and Ministry of Information and Broadcasting. Yesterday that pipe was used for providing cable TV service, it can now also transfer bits and bytes. That can

immediately provide connectivity to 500 million people," Sharma said. He said that an average cable TV home is estimated to have five members. Wireless or mobile broadband subscriber in September grew by was 173.87 million and fixed line broadband connections were at 17.84 million. Government under National Telecom Policy 2012 has set target to connect 600 million people by the year 2020 at minimum 2 Mbps download speed.

Australian Broadband Prices Set to Rise as Government Proposes NBN tax

Broadband prices in Australia are set to rise after the government this week proposed levying a charge on ISPs to help state-owned wholesaler NBN cover the cost of its fixed-wireless and satellite services. The government has put the cost to NBN of serving fixed-wireless and satellite broadband customers at A\$9.8 billion (€6.9 billion) between 2010-11 and 2039-40. Recovering these costs directly from end users would make these services prohibitively expensive, so NBN must look elsewhere. At the moment, NBN cross subsidizes the fixed-wireless and satellite services with revenue generated by its fixed-line operation. But this has been made harder because NBN faces more competition than expected in metropolitan areas. With that in mind, the Department of Communications and the Arts on Monday unveiled the Regional Broadband Scheme (RBS), which proposes that NBN covers around 90% of those costs, and that the remainder – between A\$40 million (€28.2 million) and A\$60 million per year – is paid for by alternative providers. In the first year, altnets will have to pay A\$7.09 per month plus a A\$0.0127 monthly admin fee for every fixed broadband connection. Exemptions have been proposed for altnets with fewer than 2,000 subscribers, and services delivered via fixed-wireless connection or over lines incapable of providing a minimum speed of 25 Mbps. ISPs that are in the process of transferring to the NBN's fixed-line network won't have to pay either. "NBN and NBN-comparable providers would pass the



charge on to their end user base," the Department said, in a regulatory impact statement (RIS). The government has proposed the RBS for the simple reason that NBN's fixed-line business faces more competition than expected. "Network providers have expanded into population-dense areas with existing infrastructure beyond what was originally conceived," the Department said. The government cited fibre-to-the-basement (FTTB) provider TPG, which it said is rolling out networks to high-value apartment blocks and undercutting NBN's prices. "While NBN is able to reduce its prices in commercially viable areas to respond to competition, if it does so, it will be less capable of supporting cross subsidies to

fixed-wireless and satellite services," the government said. In addition to the RBS, Australia has also proposed introducing a Statutory Infrastructure Provider (SIP). SIPs will be required to connect premises to high-speed broadband upon request from a retail service provider. NBN will be the default SIP, but other network operators will be able to be SIPs where appropriate. The government has also proposed new wholesale and retail rules designed to stop anticompetitive behavior and put downward pressure on broadband prices. Australia has launched a public consultation on the proposals; interested parties have until 3 February to respond.

Microsoft's Acquisition of LinkedIn Gets EC Approval

Microsoft addressed the European Commission's concerns about bundling LinkedIn with its products, in return for approval of the \$26 billion takeover. Of particular concern to the EC was, post-merger, how Microsoft could use its strong market position in operating systems via Windows, as well as productivity software (Outlook, Word, Excel and Powerpoint), to strengthen LinkedIn's position against its rivals. The commission said it was nervous of Microsoft pre-installing the professional social network on all Windows PCs, as well as integrating it into Microsoft Office and combining the two companies' user databases. This development could have been reinforced by shutting out LinkedIn's competitors from access to Microsoft's APIs, which they need to interoperate with its products and to access user data stored in the Microsoft cloud, the commission said. The EC was concerned that these measures would mean LinkedIn getting bigger, so making it harder for new players to provide competing services. In addition, it could have tipped the market towards LinkedIn in those markets, such as Austria, Germany and Poland, where rivals currently operate. The commitments made by Microsoft to the commission include ensuring that PC manufacturers and distributors would be free not to install LinkedIn on Windows, and allow users to remove LinkedIn if pre-installed. In addition, it must allow competing professional networks to maintain current levels of interoperability

with Microsoft Office through the Office add-in programme and APIs. Finally, Microsoft agreed to allow competing professional social networks access to Microsoft Graph, a gateway for software developers. Microsoft Graph is used to build applications and services that can, subject to user consent, access data stored in the Microsoft cloud, such as contact information, calendar data and emails. In a recent speech, EU competition commissioner Margrethe Vestager highlighted how acquiring user data, or even data from objects such as connected cars, can be central to M&A

activity, and hence within her remit. The Microsoft/LinkedIn deal provides a prime example of such an acquisition and, consequently, of how the EC will scrutinize them. Salesforce, an unsuccessful rival bidder for LinkedIn, earlier urged the EC to dig further into Microsoft's proposed acquisition. CEO Marc Benioff pressed the Federal Trade Commission (FTC) in the US to investigate the deal, but the agency declined. Benioff argued the acquisition is anticompetitive because Microsoft can restrict access to LinkedIn's data, making life difficult for rivals (including Salesforce).



Liquid Telecom Obtains Regulatory Approval

Liquid Telecom has received the final regulatory approval to close its latest transaction in Tanzania and has become the majority stakeholder of Raha, Tanzania's leading Internet Service Provider. Raha today serves over 1500 businesses as well as a growing number of retail customers with a range of connectivity solutions, including fiber, satellite, WiMAX and Wi-Fi. The acquisition provides Liquid Telecom's

enterprise and wholesale customers with direct and faster access to Tanzania and to all Eastern, Central and Southern Africa. Tanzania will become the latest market to be added to Liquid Telecom's extensive fiber network, which is the largest of its kind serving eastern, central and southern Africa, spanning over 40,000km across 12 countries. The Tanzania Communications Regulatory Authority (TCRA) approved the agreement on December 8, 2016.

"We are very pleased to announce that this transaction has received its final approval. The agreement enables Liquid Telecom to expand its footprint into Tanzania, a growing and dynamic African country," said Nic Rudnick, CEO, Liquid Telecom. "We are thrilled with this approval and look forward to being part of a pan-African connectivity movement," said Aashiq Shariff, CEO, Raha.

Commission Proposes New Tax Rules to Support e-commerce and Online Businesses in the EU

The European Commission has unveiled a series of measures to improve the Value Added Tax (VAT) environment for e-commerce businesses in the EU. Our proposals will allow consumers and companies, in particular start-ups and SMEs, to buy and sell goods and services more easily online. By introducing an EU wide portal for online VAT payments (the 'One Stop Shop'), VAT compliance expenses will be significantly reduced, saving businesses across the EU €2.3 billion a year. The new rules will also ensure that VAT is paid in the Member State of the final consumer, leading

Finally, the Commission is delivering on its pledge to enable Member States to apply the same VAT rate to e-publications such as e-books and online newspapers as for their printed equivalents, removing provisions that excluded e-publications from the favorable tax treatment allowed for traditional printed publications. Andrus Ansip, Vice President for the Digital Single Market, said: "We are delivering on our promises to unlock e-commerce in Europe. We have already proposed to make parcel delivery more affordable and efficient, to protect consumers better when they buy online

Pierre Moscovici, Commissioner for Economic Affairs, Taxation and the Customs Union, said: "Online businesses operating in the EU have been asking us to make their lives simpler. Today we're doing that. Companies big and small that sell abroad online will now deal with VAT in the same way as they would for sales in their own countries. That means less time wasted, less red tape and fewer costs. Our proposals mean that European governments stand to gain an additional €100 million a week to spend on services for their citizens." Today's proposals embrace a new approach to VAT for e-commerce and follow up on the commitments made by the European Commission in the Digital Single Market (DSM) strategy for Europe and the Action Plan towards a single EU VAT area.

In particular, we propose:

- New rules allowing companies that sell goods online to deal easily with all their EU VAT obligations in one place;
- To simplify VAT rules for startups and micro-businesses selling online, VAT on cross-border sales under €10,000 will be handled domestically. SMEs will benefit from simpler procedures for cross-border sales of up to €100,000 to make life easier;
- Action against VAT fraud from outside the EU, which can distort the market and create unfair competition;
- To enable Member States to reduce VAT rates for e-publications such as e-books and online newspapers.
- These legislative proposals will now be submitted to the European Parliament for consultation and to the Council for adoption.



to a fairer distribution of tax revenues amongst EU countries. Our proposals would help Member States to recoup the current estimated €5 billion of lost VAT on online sales every year. Estimated lost revenues are likely to reach €7 billion by 2020 and it is essential that we act now.

and to tackle unjustified geo-blocking. Now we simplify VAT rules: the last piece in the puzzle. Today's proposal will not only boost businesses, especially the smallest ones and startups, but also make public services more efficient and increase cooperation across borders."

Nigeria's Telcos are Being Forced to Increase Mobile Internet Prices

Around a year ago, Nigeria's mobile internet subscriber base had nearly hit a landmark figure: 100 million. But, due to unfavorable government policies, that trend is likely to be reversed. Last year, the Nigerian Communications Commission (NCC), the country's telecoms regulator

earned praise for deregulating data prices. The removal of a data floor price allowed local telcos to set lower mobile data prices making them cheaper than ever before and enabling more Nigerians access to the internet. But, in a surprising move, the NCC has reinstated its data

floor price, forcing telcos to jack prices back up. In a letter sent to telcos, the NCC claims the price increase is necessary "in order to provide a level playing field for all operators in the industry." The prices will take effect from December 1. The NCC cited the need to allow "small operators



and new entrants" who hold "less than 7.5% market share" and have operated "less than three years in the market" to operate profitably. Put another way: the NCC thinks that, by charging lower prices for data, large telcos, like MTN, could kill off smaller internet service providers

who'd be unable to compete profitably. Reports suggest the new regulation is due to lobbying by smaller operators. More expensive mobile internet access costs will particularly stifle internet usage growth given Nigeria's low fixed line broadband internet penetration. The

move is being widely criticized by players in Nigeria's fast-growing tech sector. Iyin 'E' Aboyeji, who made his name as a co-founder of Andela, one of the country's high-profile young tech companies, called the decision the "biggest threat" to the Nigerian government's own stated ambitions for the local tech sector. Aboyeji who now runs a payments startup called Flutterwave, addressed president Buhari directly in a series of tweets. The decision also comes at a time when Nigeria's mobile internet usage has been steadily regressing. While the NCC's decision to make telcos hike data prices is surprising, there was a chance the price of internet access was going to increase. As Quartz has reported, in a bid to increase government revenue, Nigerian lawmakers have discussed a bill to levy a 9% communications tax on various services including internet data. But with service providers unlikely to bear the extra expense, the costs was likely to be passed down to end users.

Europe Set to Finally Make its OTT Move

The European Commission is reported to be in the process of introducing new regulations for OTTs which will level the playing field for telcos in Europe. The e-privacy directive, which currently only applies to telcos, will be expanded to OTT services such as Microsoft's Skype and Facebook's WhatsApp, as the EC lumbers towards some sort of decision on regulation. The telco industry has long been lobbying regulatory decision makers to address the imbalance in rules governing how telcos can monetize mined data, as there has been a general acceptance the OTTs have significantly more freedom. The draft wants to extend the rules to ensure the OTTs will have to guarantee the confidentiality of communications and obtain the users' consent to process their location data, mirroring similar provisions included in the Gaggle of Red-tapers' General Data

Protection Regulations (GDPR), set to come into force in 2018. "This creates a void of protection of confidentiality for the users of these services," the draft reads, referring to the OTTs. "Moreover, it generates an uneven playing field between these providers and electronic communications service providers, as services which are perceived by users as functionally equivalent are not subject to the same rules." While the telcos have been begging for equality in the digital economy, this may not be what they had in mind. You do have to feel a bit sorry for the cumbersome telcos, they have had revenues shattered by the OTTs who are offering very similar services, but playing to a different rule book. The parity maybe welcomed by the telcos, and will give them the opportunity to monetize data in a similar manner to OTTs and open up new revenue channels. The

proposal will also remove the obligation on websites to ask visitors for permission to place cookies on their browsers, which currently appears via a banner, assuming the user has already consented through the privacy settings of the web browser. "If browsers are equipped with such functionality, websites that want to set cookies for behavioral advertising purposes may not need to put in place banners requesting their consent insofar as users may provide their consent by selecting the right settings in their browser," the draft said. The proposal is set to be unveiled in January as a late-Christmas present from the Gaggle of Red-tapers to itself. After all, the Gaggle of Red-tapers wouldn't be the party-animals they were if they weren't given the opportunity to throw their red-tape all over the shop and complicate matters.

A SNAPSHOT OF REGULATORY ACTIVITIES IN SAMENA REGION



Algeria's Regulatory Authority for Post and Telecommunications (Autorite de Regulation de la Poste et des Telecoms, ARPT) has granted its permission to cellco Algerie Telecom Mobile (Mobilis) to deploy 4G services in eleven additional wilayas (provinces) – El Oued, Biskra, Constantine, Bou Arreridj Bordj, Tlemcen, Sidi Bel Abbas, Boumerdes, Tizi Ouzou, Blida, Tipaza

and Batna. The regulator disclosed that it made the decision (No.113/PC/ARPT/2016 of November 21, 2016) after Mobilis achieved its minimum coverage and quality of service (QoS) obligations in the wilayas of Algiers, Oran and Ouargla. The operator now offers LTE services in a total of 14 wilayas. (December 1, 2016) telegeography.com

Algeria



LTE services in Bahrain are performing 23 per cent faster in 2016 compared to 2014, said the deputy general director of the Telecommunications Regulatory Authority (TRA). TRA has released three major reports of an independent audit regarding mobile network coverage, mobile quality of service and mobile billing to the general public. "These latest reports focus on many Mobile services, with an emphasis on mobile services related to data," said Sheikh Nasser bin Mohammed Al Khalifa. "We advise consumers to go through these reports to benefit from knowing which operators offer services that best suits their individual needs. The mobile audit reports provide valuable quantitative and qualitative comparable results of the performance of mobile operators." TRA's technical & operations director Mohammed Alnoaimi said: "From the audit results, it is clear that mobile operators have improved their networks to cater for ever-increasing consumer demands. The results when compared to some countries, shows that Bahrain is taking the lead, surpassing mobile quality of service benchmarks as demonstrated in the reports." The objective of the mobile network coverage audit is to measure outdoor coverage and ensure that mobile operators comply with the license coverage's conditions (99 per cent of the Kingdom's population). The coverage Audit

shows that all operators cover 100 per cent of the population with 3G and 4G technologies. The mobile QOS reports' purpose is to measure the operator's performance in providing various services, such as voice and data mobile services. TRA aimed at measuring and evaluating the quality level offered by mobile operators from an end user perspective for mobile services such as voice calls, short messaging services, mobile web browsing, data transfer, video streaming and social networking efficiency. The three mobile networks offer an excellent level of service with an average setup and an average call 2-minute duration rate of 98.6 per cent compared to 95 per cent in 2014 across the Kingdom. Meanwhile, the average speed of mobile 4G technology improved in HTTP Upload/Download from 30 MBPS in 2014 to 36MBPS respectively in 2016. In terms of both voice quality, SMS and Data, Bahrain's position is outperforming other countries, maintaining its higher ranking which is measured on the basis that the aforementioned countries perform the same tests. The aim of the billing audit is to evaluate from end the user's experience the accuracy of mobile operator billing systems, enabling consumers to choose the most suitable services. This report encompasses national calls, national SMS's and data services. (December 19, 2016) trade Arabia.com

Bahrain



The government has included the issue of cyber security in the National Telecom Policy to counter digital crimes and also amended the policy's chapter on social obligation fund, officials said. The development comes after the cabinet made the observations in the draft policy it had approved in June. "We have already addressed the issue of cybersecurity and usage of social obligation fund," said Tarana Halim, state minister for post and telecom. The telecom division has sent the amendments to the law ministry for clearance. But the law

ministry has forwarded it to the finance ministry as the social obligation fund deals with money and any financial issue has to have approval from the finance ministry. The government has already collected about Tk 1,000 crore but cannot find a way to spend it. "We may place it to the cabinet once again. Definitely we will move it as fast as we can," she said, adding that by January the industry will get a new policy that can guide the digitization process. The new policy will replace the existing one that was formulated in 1998 and became outdated for a few

Bangladesh

years now. The cabinet though has already adopted the policy allowing spectrum and service neutrality -- a pressing demand of the country's mobile phone operators. The government aims to achieve 100 percent teledensity and 65 percent internet penetration by 2021. The policy has laid out short-, mid- and long-term goals. The short-term goals are expected to be achieved by 2018, the mid-term ones by 2021 and the long-term ones by 2025. Under the short-term goals, the telecom division has set a target to achieve 90 percent teledensity from existing 80 percent. Similarly, the division is working to raise internet penetration to 45 percent within two years and 65 percent by 2021, from 27 percent at present. The government plans to raise the fixed broadband internet usage to 20 percent by 2018 from 7 percent currently, and to 40 percent by 2021. By 2025, the policy aims to raise the usage to 60 percent. The government also aims to ensure wireless broadband connection at upazila level by 2018. By 2021, it wants to establish 20 percent fiber optic cable connectivity and 50 percent by 2025. The policy stresses that state-run mobile phone operator Teletalk and landline operator Bangladesh Telecommunications Company Ltd increase their capacities to compete with other players in their markets. It also says the service providers must comply with the performance standards and the quality of service parameters.

(December 19, 2016) thedailystar.net

The Bangladesh Telecommunication Regulatory Commission (BTRC) authorities have asked the country's mobile phone operators to stay vigilant over call spoofing. The BTRC came

up with the cautionary call after many users complained that they were asked over phone to provide with their personal and financial statements. The fraud gangs are using BTRC identity to collect the information from the users. The telecommunication watchdog also directed the phone operators to arrange necessary technological supports to check the fraud. Caller ID spoofing is a service that allows a caller to masquerade as someone else by falsifying the number that appears on the recipient's caller ID display. BTRC sources said recently, the telecom authorities sat with the cell phone operators and discussed it in details. The representatives of the operators said if any spoofing call is 'on-net (using own network)', they can trace out that. Necessary action has already been taken against the accused on charge of making spoofing calls. If it is made on off-net, it is impossible to nab them, the operators added. A BTRC high-up told Prothom Alo that the spoofing calls are being created using Internet Cloud technology. So, reducing rate of spoofing calls to zero is quite tough. The BTRC official also said some actions have been taken in this regard. According to the telecommunication law, caller identification is must for making a phone call. This is applicable for all internal and external calls. The BTRC has already issued a notification over spoofing call. According to the notification, some fraud gangs are illegally seeking information over SIM registration, financial transactions through mobile phone, its PIN, and personal information; sending text message and making call to them using BTRC identity.

(December 12, 2016) en.prothom-alo.com



Egypt

The ICT Minister Yasser Elkady has held talks with Samsung Egypt officials to present the results of the company's business and the future plans of the company's investments and activities in the Egyptian market. During this meeting, Elkady hailed the serious steps taken by the company and the company's experience at the Beni Suef plant. He encouraged Samsung officials to increase the fields of domestic manufacturing, the percentage of products local components, and exports. The ICT minister reviewed the advantages of having a presence in new technology parks, such as New Asiut and Borg Al Arab, where many factories and companies operating in advanced electronics will be established. He added that a new technology park will be set up in Beni Suef soon. Elkady also referred to the presidential initiative for the electronics industry. He said that

the state is working on creating a supportive work environment for the development of this industry, including the necessary legislation, and providing skilled technicians. Samsung Egypt officials led by country head Seung-Ho Yun underlined the company's intention to increase the size of investments locally and expand the advanced electronics industry in Egypt during the coming period, in line with the Egyptian initiative to implant the electronics industry. They also ascertained that Samsung investments in Egypt are long-term, due to its confidence in the Egyptian business environment and qualified stagg. They referred to the company's experience in Upper Egypt, and the company's intention to expand in this field.

(December 13, 2016) telecompaper.com



Iran

South Africa-based MTN Group has reportedly begun to repatriate cash from its 49% subsidiary operation in Iran, MTN Irancell. The group had previously been unable to take funds from Iran due to economic sanctions imposed on the country, but these were lifted earlier this year. MTN Group has now managed to extract several hundred million dollars with the

help of European banks, and it is looking to take a total of around USD1 billion by the end of March 2017. The money includes a US\$430 million loan repayment from MTN Irancell. The South African group recently reaffirmed its commitment to the Iranian market, where it is the number two mobile provider.

(December 14, 2016) Bloomberg



Iraq

Zain Iraq has agreed to pay US\$94 million to settle a tax case related to the acquisition of rival operator Iraqna from Egypt's Orascom Telecom, Kuwaiti parent Zain Group said in a press release. Iraq's tax authority the General Commission of Taxes (GCT) claimed that Zain Iraq owed US\$187 million in capital gains tax due on its US\$1.2 billion acquisition of Iraqna in 2007, while Zain argued that capital gains tax should only apply to

the seller, in this case Egypt's Orascom Telecom. Under the new settlement with the GCT and the country's Ministry of Finance, the Iraqi authorities will drop the claims against Zain Iraq, cancel associated owed interest and penalties, and allow Zain Iraq to appeal against additional tax assessments for the periods of 2004-10 (Zain) and 2004-07 (Iraqna).

(December 22, 2016) telegeography.com



Jordan

Middle East Payment Services (MEPS) has signed an agreement with Orange Jordan for the provision of a new payment gateway that allows people to settle their bills online. The agreement was inked by MEPS CEO, Khaled Zakaria, and CEO of Orange Jordan, Jérôme Hénique. The new service enables Orange Jordan customers to settle their landline, mobile and internet bills online, as well as to pay for purchases ordered from the Orange E-Shop including electronic top up for Orange Jordan prepaid lines. After accessing Orange Jordan's website and choosing MEPS' new payment gateway, customers can enter the details of their payment cards and complete the payment process safely and conveniently. "This agreement corresponds

with our commitment to provide Orange Jordan customers with the best secure payment solutions, offering them safe and easy electronic payment services that save them time and effort. This step also underscores our ongoing efforts to simplify the payment process in the Kingdom and make it more convenient for everyone," commented Zakaria. Hénique said, "We're delighted to partner with MEPS, whose advanced services meet our customers' expectations and enhance the services that we in turn provide. Through the secure payment gateway on our website, our customers can now settle their bills and pay for their purchases around the clock, in an easy and safe manner."

(December 14, 2016) zawya.com



Kuwait

Zain Group and Swedish equipment vendor Ericsson have entered into a 5G research and development agreement, which will allow the two partners to evaluate performance and applicability of potential 5G key technology components. The collaboration aims to develop new 5G use cases, requirements and deployment scenarios, thus paving the way for 5G deployment in the Middle East supporting Zain's transformation

towards digitization. Zain Group's CTO Hisham Allam said: 'As a leading 4G operator, we are always working to ensure that we are first to market with new innovations for our customers. Working with Ericsson will enable us to gain additional insights into our customer market and potential growth areas supporting our vision of being a digital lifestyle operator.'

(December 6, 2016) telegeography.com



Lebanon

Lebanon has already started installing fiber optics in big cities, and 85 percent of the Lebanese population will have access to the service by the end of 2017, Telecoms Minister Boutros Harb said. "All advanced countries rely on fiber optics to have access to the internet, and while the service is already available in Lebanon, the country will be fully covered by the end of 2020," the minister said at a conference. His comments came during a conference at the American University of Beirut on the importance of having integrated Arab electronic infrastructure. Harb said the current installation of fiber optics is part of the 2020 strategy he launched in July last year. According to that

plan, fiber-optic networks will be gradually installed over five years, and the country totally connected by fiber by 2020. Amer Tabsh, an expert in the field, told The Daily Star that fiber optics have already been installed between the main centers in different areas of Lebanon, but still need to be connected to big enterprises and houses. "Right now we are in the process of connecting fiber optics to houses and big enterprises," he said. Tabsh explained that households are currently connected to the internet via copper cables that have limited capacity when it comes to data transfer and speed. "Also, too many copper cables are needed to connect a big number of houses to the

internet, while with fiber optics, we only need half the quantity of cables to be connected to the same number of houses," he added. Tabsh noted that while copper cables have the capacity to provide users with a maximum internet speed of 8 megabytes per second, fiber optics can provide households with an average of 100 megabytes per second. Harb said in his speech that the 2020 strategy also aims at providing Lebanon with 4G services. "We are expecting full coverage with 4G services in Lebanon by the end of 2016," he said. He added that the Telecoms Ministry had succeeded in improving fixed and mobile phone networks



Orange Group has revealed that its Moroccan unit Meditel Telecom (Meditel) has adopted the Orange brand, following the rebranding of the group's Belgian and Egyptian subsidiaries earlier this year. The French group acquired the controlling stake (49% of Meditel) in July 2015, following the transfer of a combined 9% stake in the Moroccan operator from state-controlled financial institution Caisse de Depots et de Gestion (CDG) and local investment firm FinanceCom, in line with a

in Lebanon while increasing internet speeds. "We have also succeeded in increasing the revenues of the Telecoms Ministry while reducing the prices of telecom services by 70 percent," the Minister said. Talal Abu-Ghazaleh, president of the Arab Organization for Quality Assurance in Education, said that his group would continue working on improving information technology in the Arab region. Abu-Ghazaleh also added that his organization will work hard on strengthening exchange among Arab countries in a bid to create an integrated Arab IT infrastructure. (December 2, 2016) zawya.com

Morocco

shareholder agreement signed back in December 2010. Meditel owns and operates over 5,400km of optical fiber and more than 4,000 base transceiver stations (BTS) throughout Morocco. The company's 2G/3G networks provide coverage for 99% of the country's population, while 4G services – which were first launched in June 2015 – are available to 42% of the population.

(December 9, 2016) telegeography.com



The Nepal Telecommunications Authority (NTA) has invited expressions of interest (Eoi) for a consultant to help formulate a regulatory framework for the implementation of mobile number portability (MNP) in the country. The deadline for applications is January 20, 2017. The regulator originally planned to have MNP in place in 2010, but faltering take-up led to a postponement. There were further moves towards a launch of number portability in 2013/14, but once again the idea was shelved. Nepal was home to around 29.2 million mobile subscribers at the end of September 2016, split between Nepal Telecom (NT) and Ncell, while rival operator Smart Telecom serves a further 1.4 million users with its limited mobility GSM system.

(December 9, 2016) telegeography.com

Realizing that a huge number of mobile phones with fake International Mobile Equipment Identity (IMEI) numbers have been sold in the domestic market, Nepal Telecommunications Authority (NTA) is planning to bring such mobile phones into government system by issuing genuine IMEI numbers to such handsets. Under its plan to register every mobile set being sold in the market to control the grey market, NTA is preparing to issue genuine IMEI numbers to fake mobile phones. On April 13, NTA had begun the Equipment Identity Register (EIR) system to bring every mobile phone in the government's net, crack down on illegal sale of mobile phones, enable tracking system and make fake handsets inoperable. The EIR system was launched with the primary aim of controlling the growing grey market of mobile phones in the country. Under this system, importers of mobile phones have to mandatorily register the IMEI number or

Electronic Serial Number (ESN) or Mobile Equipment Identifier (MEID) of all mobile sets at NTA. "Though there has been a surge in importers registering IMEI numbers of their mobile sets, a huge number of mobile sets with fake IMEI numbers are still being sold in the domestic market. Making such phones inoperable suddenly can affect a large mass of mobile users," said Min Prasad Aryal, spokesperson for NTA, adding that NTA is planning to give an opportunity to such mobile importers to register their sets at NTA and get authorized IMEI numbers. Aryal further said that NTA would introduce Genuine IMEI Implantation System to issue genuine IMEI numbers to such mobile phones. However, the telecommunication sector regulator is yet to collaborate with international firms authorized to issue IMEI numbers to mobile phones. He informed that only four firms from India, United Kingdom, United States of America and China are authorized to issue new IMEI numbers for mobile sets. NTA plans to facilitate mobile phone users to check the status of their IMEI numbers – whether it is fake or genuine – through SMS and NTA's official website. Meanwhile, IMEI numbers of more than six million units of mobile phones have been registered at NTA since registration of IMEI numbers of mobile phones for importers was made mandatory, according to Aryal. The private sector has also been supporting NTA in this campaign. A few days back, Deepak Malhotra, president of Mobile Phone Importers' Association (MPIA), had said that importers would deliver full support to the government to control the ever increasing grey market.

(December 8, 2016) thehimalayantimes.com

Nepal



Oman

The Omani government has transferred its 51% stake in Oman Telecommunications Company (Omantel), the country's incumbent telecoms operator, from the Ministry of Finance to the Oman Investment Fund (OIF). The announcement was made in a disclosure to the Muscat Securities Market. Established under Royal Decree No. 14/2006 of 6 March 2006, the OIF is a wholly owned investment arm of the government and is fully funded by the Ministry of Finance. Its objective is to build a diversified portfolio in the production and services sectors, projects and other related fields. The government reduced its stake in Omantel from 70% to the current 51% in the first half of 2014, following a private placement open to Omani individual and institutional investors in March that year, and an initial public offering (IPO) for local citizens in April.

(December 19, 2016) telegeography.com

Majlis Al Shura discussed a number of topics referred by the government agencies, and ministries letters and replies, including the letter from the CEO of the Telecommunications Regulatory Authority (TRA) regarding its initiatives to cover rural areas. The reply said that TRA has a number of initiatives to cover a number of rural regions in the Sultanate, which have been counted through field visits to the governorates, during the past two years, as 410 villages were included by the initiatives and will be covered through the construction and installation of 312 telecommunication stations, of which 138 stations are completed. Majlis Al Shura held its second regular meeting of the 2nd annual sitting (2016-2017) of the 8th term, under the chair of Khalid bin Hilal Al Ma'awali, Chairman of Majlis Al Shura. The meeting reviewed many letters of the Standing Committees of Majlis, including the Committee on Social Services and Development Report, about telecommunications services in the Sultanate in the light of its meeting with companies working in telecommunications sector, in addition to the letter of the Head of the Youth and Human Resources Committee, on a proposal submitted by the citizens on the Omanisation of local technical services. The meeting also reviewed a letter by the Head of Health and Environment Committee, on the results of the field visit to Bahla Hospital. The letter included the results of the field visit, suggestions and recommendations of the visit. Majlis members were briefed on letters about a number of topics of public interest in the Sultanate, in addition to the review of some letters by the citizens and the special entities and took the appropriate actions on them. In the external affairs, the meeting was briefed on the delegation's report which participated in 135th Inter-Parliamentary Union (IPU) and associated meetings in Geneva, Switzerland, from October 23rd to 27th, 2016. The report included the official delegation activity in IPU coordination meetings, official meetings and its organs and its committees and the agenda of IPU General Assembly, along with decisions and results. (December 13, 2016) timesofoman.com

Top experts and leaders will highlight and discuss the economic value and benefits of implementing smart cities projects in Oman and the region, at the inaugural Oman Smart City Summit

2017, to be held next year. The conference and exhibition will take place with the support and cooperation of the Smart Cities Council and Information Technology Authority (ITA) on March 28 and 29, at the Oman Convention and Exhibition centre. The event will focus on the theme "Empowering Smart Nation", which will draw attention to what defines a smart city, and as well as explore how to adapt the concept to best meet the unique needs for each city, said a statement from the organizers. The exhibition will see local and international speakers, thought leaders and experts presenting case studies discussing latest developments and future growth prospects, it said. Oman's digital strategy was led by ITA more than a decade ago and was successful in paving the way for building a future-proof information and communications technology (ICT) infrastructure. This solid infrastructure enables the creation of new ventures that contribute to the country's gross domestic product (GDP), it added. Commenting on the conference, Dr. Salim Bin Sultan Alruzaqi, CEO of ITA, said: "Technological change and new technologies have made massive improvements in the delivery of public services and Oman is one of the countries aspiring to embrace the move toward urban automation and transforming into smart government." "This conference, with its highly recognized experts and thought leaders, will bring about new insights on how the change to smart cities can open new horizons to the country at socio/economic levels," he said. "The big stimulus for smart services comes from the acceleration of the fiber-based national fixed broadband infrastructure. Global trend statistics prove that for a 10 per cent increase in national broadband penetration, there is a direct growth on the GDP by 1.38 per cent," he added. Alruzaqi stated that fiber-to-home (FTTH), the new generation broad band, will provide the nation with unmatched benefits and more reliability enabling ultra-fast internet connectivity and content-rich applications that require high bandwidth and speeds. He pointed out that by 2020 it is estimated that over 90 per cent of the Governorate of Muscat, which is equivalent to 350,000 premises, will be covered by the fiber optic network. "By the end of 2030, it is expected that most of the surrounding urban areas outside of Muscat will also be covered by the fiber optic network. The ultimate target is to connect all homes and businesses to the national broadband network across the sultanate by 2040," Alruzaqi concluded. Philip Bane, Managing Director of Smart Cities Council, explained that participation is part of its global initiative to share knowledge, benefits and opportunities and best practices from proven smart city projects implemented around the world. The Smart Cities Council includes a global network of smart city practitioners and innovators dedicated to improving the livability, workability and sustainability of the world's cities. The council's network of over 40 companies and more than 75 expert advisors has completed more than 5,000 smart city projects all over the world. Tarek Ali, general manager of OITE Trade Fairs, said: "The developed IT infrastructure in Oman and the expansion of broadband services opens new investment opportunities for international and local companies to explore." "The sultanate has already started implementing

smart cities applications and the emerging projects such as Madinat Al Irfan, Omagine Oman and Duqm are examples of the country's vision to create new urban centres and enhance urbanism," he added. Alongside the conference, leading smart city companies will present international technologies and ideas to conference participants and the local business community to expand knowledge and business sourcing, it stated.

(December 7, 2016) TradeArabia News Service

Villagers' lives are set to become easier as the Telecommunication Regulatory Authority (TRA) is installing telecom stations which are expected to be complete by 2017. The TRA is building 312 mobile telecom stations in two phases in various governorates of the Sultanate to cover 410 villages which lack telecommunication services. Phase 1 outlines the installation of 200 mobile telecom stations of which 138 are already operational while the remaining 62 will be complete by the first quarter of 2017. Phase 2 concerns building 200 mobile telecom stations once the sites are approved and the required construction permits are obtained. This phase is expected to be completed by the end of 2017. Speaking about the positive impact of providing telecommunication coverage in rural areas, Hamood Ahmed Al Yahyai, member of the Shura Council representing Wilayat Dank, said that the TRA's actions

are based on the Shura's proposal to provide coverage to villages and make life easier for villagers. "The villagers had to seek out other locations with telecom coverage to get a decent signal, but now that there are stations it would be economically efficient for them," Al Yahyai said. "Now, they can save time, and instead of travelling, they can stay connected with the rest of the nation from the comfort of their homes," he added. He also asked the TRA to expedite the development of the telecom stations, since the move to provide coverage was supposed to have been thought of previously, instead of implementing it so late through all these years. When asked how it would benefit the villagers in terms of starting businesses and enhancing trade and commerce, Al Yahyai said, "Everything is online now. They could register their businesses and invest online without having to go to the authorities concerned. By having these stations installed, the villagers' lives will change positively." Al Yahyai extended his gratitude to the TRA for its efforts to provide the necessary telecom coverage in these areas. So far, in Phase 2 of the project, Al Dhahira, North Al Batinah, Buraimi, Musandam and Muscat Governorates, have been approved for the implementation of the stations at select villages after determining the optimal sites, while other locations will soon follow. (November 30, 2016) world.einnews.com



Pakistan

The Islamabad High Court has given its seal of approval for the merger of Pakistani mobile operators Mobilink and Warid Telecom, reports The News International. The amalgamation gives over 51 million Mobilink/Warid customers access to an enlarged 3G and LTE network footprint and service range. VimpelCom and Abu Dhabi Group, the respective parents of Mobilink and Warid, agreed to combine their businesses in November last year, and a share swap – which saw Mobilink acquire 100% of the shares in Warid, whilst Abu Dhabi Group shareholders acquired a 15% stake in Mobilink – was completed in July 2016. VimpelCom noted at the time that the transaction is expected to create CAPEX and OPEX synergies with a net value of around USD500 million, with an annual run rate of more than USD100 million of free cash flow improvements by year three. The High Court backing for a legal merger of the two companies was the final necessary approval for the consolidation, which had already been rubber-stamped by the Pakistan Telecommunication Authority (PTA), the Competition Commission (with conditions), the country's Securities & Exchange Commission, shareholders, creditors and the state bank. Aamir Ibrahim, CEO of Mobilink and Warid stated: 'The approval from Islamabad High Court marks a major and absolute milestone in our bid to merge the two businesses. Through this, Pakistan's digital development will be elevated to the next level, further reducing the digital divide as we transform the merged company from a legacy telecom to a leading technology company.' (December 23, 2016) telegeography.com

South East Asia–Middle East–Western Europe 5 (SEA-ME-WE-5) announced the completion of laying its 20,000 km long

under-sea submarine cable system that will connect to Pakistan through a TWA landing station Karachi. Transworld Association (TWA) will manage and maintain SEA-ME-WE-5 in Pakistan, which is the joint project of other leading telecom operators from 16 different countries. The bandwidth of the cable is 24tbps (terabyte per second) which is an addition to Pakistan's total internet capacity of 7tbps, that sums up to around 31tbps. SEA-ME-WE-5 is a 20,000 km optical fiber submarine communication cable system that connects Singapore to Europe (Italy and France) and all through Indonesia, Malaysia, Thailand, Myanmar, Bangladesh, Sri Lanka, Pakistan, Oman, UAE, Yemen, Djibouti and Kingdom of Saudi Arabia. The end-users are not going to get the update in the internet speed right away, but the internet service providers (ISPs), and telecom operator will have to buy the wider pipes of internet bandwidth that will enhance the users' speed. (December 13, 2016) thenewstribe.com

The number of 3G and 4G users in Pakistan reached 35.45 million at the end of October 2016, official documents of Pakistan Telecommunication Authority (PTA) revealed. Mobile phone users in Pakistan reached 134.91 million by end October 2016, up from 134.41 million a month ago at the end of September 2016, registering an increase of around 0.5 million cellular subscribers during the period. The documents further revealed that Ufone 3G subscribers decreased from 5,297,543 in September to 5,245,299 by end October 2016. According to the PTA data, the number of 3G subscribers of Mobilink, Zong, and Telenor reached 11.78 million, 6.68 million and 9.24 million respectively by end October 2016 against 10.955 million, 6.66 million and 9.11 million by end September. Warid LTE subscribers

reached 599785 by end October against 577275 during this period. The number of 4G (Zong) users jumped from 1,713,900 subscribers in September 2016 to 1,903,285 subscribers by



More than a decade after Israel and Europe rolled out 3G, Palestinians are preparing for the introduction of the mobile network, hoping better Internet access will give their economy a boost. With 4.6 million Palestinians in Gaza and the West Bank, a burgeoning Internet sector and a very high usage of social media platforms such as Facebook and Twitter, demand for 3G is expected to be strong, even if it is a generation behind the 4G networks now in use in Israel and Europe. Officials say the service will also be a boon for consumers working remotely, including those stuck at Israeli checkpoints and needing to pay urgent bills or get work done. After lengthy negotiations, Israel and the Palestinian Authority signed an agreement last month opening the way for the network, with services expected in the Israeli-occupied West Bank by the second half of 2016 and afterwards in Gaza. Palestinian mobile operators Paltel and Wataniya have set aside a combined \$150 million for the upgrade from 2G. "The use of fast Internet, especially in the mobile sector, will contribute greatly to increasing GDP," Palestinian Telecoms Minister, Allam Moussa, told Reuters. The Palestinian Authority's gross domestic product totaled \$12.7 billion in 2014, according to the World Bank. Studies indicate a 10 percent increase in broadband use adds around 1 percentage point to GDP. With unemployment at 27 percent, the Palestinian territories could do with the boost. "It may inject \$80-\$100 million into the Palestinian economy every year," said Ammar Aker, chief executive of PalTel Group, calling it a rough estimate. The Palestinian Authority already hosts a number of App designers, and new investment is expected to create jobs in the design and making of Apps and in the IT sector among others. Describing a situation familiar to many Palestinians, former telecoms minister Mashhour Abu Daqqa talked up the

end October 2016. Mobile teledensity reached 69.22 per cent and Broadband subscribers increased to 35,446,843 during the period under review. (December 9, 2016) proPakistani.com

Palestine

advantage of 3G for consumers caught out by the frequent sudden closures of Israeli checkpoints. "You can do all your business over the Internet while waiting for the crossing to open," he told Reuters. "An employee or a businessman would be able to finish his work while at home, in a cafe or anywhere." Still, while cellular operators are pleased that Israel - which under interim peace accords effectively has a final say over allocating radio frequencies in the West Bank - has given the go-ahead, they are disappointed not to jump straight to 4G. "From an investment point of view it would have been better for us," said PalTel's Aker. "But we would have needed another two years of negotiation." Though the agreement with Israel covers both the West Bank and Gaza, analysts expect it will only be introduced in the West Bank next year. Gaza, which is controlled by the Islamist group Hamas, will probably come later. "The agreement does not specify a geographical area, which means in theory it applies to both," said Abu Daqqa, the former minister and an IT specialist. "But out of experience, Israel will not allow it to work in Gaza." Haitham Abu Shaaban, Wataniya's director of operations in Gaza, said the company was ready to roll out services as soon as it had the green light from the Palestinian Authority. "We are getting prepared to buy the equipment and put together the required commercial plans," he said. Like billions of people around the world, Palestinians are rarely away from their phones. There is some resentment that, with Israel having introduced 4G this year, the Palestinians are lagging, although some Palestinians retain a sense of humor about it. "It seemed as if it was meant to be like this: 4G in Israel, 3G in the West Bank and 2G in Gaza," said one official.

(December 22, 2016) reuters.com



Qatar has the highest rates of access to mobile operator in the world, where the mobile numbers that have been allocated reached more than 5mn, in addition to about 1.4mn fixed numbers. The Communications Regulatory Authority (CRA) has revealed that it will make a review of the telecommunications market in the State of Qatar, which will allow it to prepare a new strategy for the sector and take the necessary steps to develop it. Regarding the existence of the authority's future plan to open the telecommunications market in Qatar for a third operator, CRA President Mohamed Ali al-Mannai said in an interview with Qatar News Agency (QNA) that the ideal number of telecom service providers depends on the nature of each area and the market's needs. About the prices of Qatar's telecom services,

al-Mannai explained that the prices of mobile and Internet services in Qatar are in line with the rest of the countries in the region, adding that according to a report of the Arab Advisers Group on the Internet services through fiber cables, Iraq ranked first in the rising prices in the region where the rate of 100 Mbps costs \$350 a month, while Qatar was placed at the penultimate with a cost of \$144 a month. Al-Mannai pointed out that with respect to mobile broadband, a report published by the CRA in June 2016 showed that mobile home broadband prices in Qatar are among the lowest prices in the region and much lower than the average according to the standards of the Organization for Economic Co-operation and Development (OECD). But he said that the prices of leased lines and services provided to

Qatar

companies are relatively high compared to global standards, and therefore one of the main concerns of the authority is the strengthening of the presence of competitively priced solutions for businesses and thus supporting the Qatari economic diversification. To promote a knowledge-based economy, al-Mannai said that the basis of the competition is to provide better services and not only to provide services at the lowest price and there must be a balance between price reductions for consumers in the short term and the provision of appropriate stimulus for innovation to enable competitiveness and investment capacity in new technologies in the long term. He also revealed that Qatar has the highest rates of access to mobile operator in the world, where the mobile numbers that have been allocated reached more than 5mn, in addition to about 1.4mn fixed numbers. Regarding the telecommunications sector's contribution in the national economy, he said that telecoms and information technology are a key component to build a knowledge-based society based on multiple electronic services such as health and education services in addition to smart cities, as the prosperous telecommunications sector and information technology support the economic diversification away from oil-based economy in accordance with the objectives of Qatar National Vision 2030. The CRA chief added that there is a lot of evidence of the positive impact of Information and Communication Technology (ICT) on the development as the ICT is enabling us to accomplish matters with more effective and efficient ways, and create opportunities for new projects and business. An example of that in 2011, Facebook applications provided more than 182,000 jobs around the world and the total value of the application exceeded \$12bn. Therefore there was no reason not to develop such an application in Qatar if the appropriate conditions are available. Al-Mannai noted that the level of the telecoms sector in Qatar is perfect as the country ranked 27th among most networked nations in the world and second among Arab countries, on the 2016 edition of the Global Information Technology Report (GITR). But the reasonable cost issue remains a challenge which was highlighted in the digital scene report issued by the Ministry of Transport and Communications in June 2016 which showed companies' dissatisfaction of the cost of Internet as well as products and services of information technology. Al-Mannai explained that there is a strong competition between mobile communication vendors in Qatar; however the competition is weak between fixed communication vendors. In 2010, Qatar National Numbering Plan was implemented where the fixed and mobile phone numbers increased from seven numbers to 8 digits which in turn increased the available numbers to meet future demand of communication services, hence the CRA does not hold plans to increase the number of digits in this time. On the topic of Internet domains registry, Al-Mannai stated that the CRA launched Qatar Domains Registry which promotes competition and innovation in the market, and has licensed 17 local and international companies to offer domains registry services to the public, where the number of registered domains have reached 22,000 domains so far, noting that an increase in number of Qatari domains is an increase in Qatari presence and content on the Internet. Al-Mannai further added that Qatar is among the first countries in the world to be able to offer domain names in Arabic. The Telecommunications Law of the State of

Qatar of the year 2006 mandates that every person/entity that intends to operate any radio communication equipment or make use of frequencies must possess a Radio Spectrum License or a Radio frequency authorization. As per the provisions of the law, it is the CRA's responsibility to issue radio spectrum licenses or radio frequency authorizations to authorize operation of any wireless station or network in Qatar. The Spectrum management department of the CRA issues various licenses including temporary and permanent licenses as well as approval on 270 commercial activities using radio communications and 18480 approvals on custom clearance on radio equipment and Telecommunications Terminal Equipment imported for the country through land, sea and air ports. Al-Mannai said that part of the CRA's Spectrum Management's continuing efforts, it effectively allocated temporary radio frequencies to cover important visits to the country in the period between January 2016 and November 2016 where it has successfully been able to allocate frequencies for 13 visits. In a similar context, the CRA paid large attention to allocate temporary frequencies for sport events such as World Touring Car Championship, Qatar Ladies Open, Road World Championships Doha 2016, the two Grand Prix motorcycle racing "MotoGP" and "Motocross", Commercial Bank Qatar Masters, Tour of Qatar, Qatar ExxonMobil Open, and Qatar Total Tennis Open, where the Authority allocated more than 500 frequencies for these events. In terms of permanent and annual licenses CRA managed to issue 850 frequencies and 3040 licenses for radio stations. With regards to complaints submitted to the CRA on telecommunication service providers in Qatar, al-Mannai stated that the co-operation of the service providers has resolved many of the complaints, adding that the CRA received 1,305 complaints between January and November 2016 and 85% of them have been resolved, explaining that both entities are still working on resolving the rest. He further stated that the authority received 3000 inquiries from the public within the same time period. Statistics show that most of the complaints against mobile service providers were about bills, service interruption, network coverage, and value-added services, whereas complaints against fixed phone service providers were about delay in the installation or removal of the service. He stressed that the authority's consumer protection department must monitor service providers' conformity to the Telecommunications Law and its regulations, rather than following their own regulations, through scrutinizing complaints that are raised to the authority. Lastly, the authority is committed to organize the postal sector, in order to ensure that the public receive good postal services at affordable prices; hence the CRA collaborated with the Ministry of Transport and Communications in drafting the new postal law. In addition the CRA is working on developing the organizational framework which is compatible with the Emir's law; which will improve the quality of service provided to customers.

(December 19, 2016) gulf-times.com

The Communications Regulatory Authority (CRA) has initiated a drive to encourage the uptake of Qatari domain names by local businesses and individuals to increase their web presence. As part of the drive, CRA has invited local web solution providers to sign up as accredited domain name registrars with the

authority's Qatar Domains Registry (QDR). In a press statement yesterday, CRA said QDR has "invested significant time and resources" in identifying and accrediting registrars with strong potential in increasing local and global adoption of the ".qa" and ".q" domains. Accredited registrars represent QDR to offer short, memorable and uniquely Qatari domain extensions to customers, and to manage the registration process following international standards set by the Internet Corporation for Assigned Names and Numbers. Although accreditation by QDR allows any registrar to have direct access to the registry database, only Qatar-based registrars are able to register second-level ".qa" addresses, such as ".com.qa" – reserved for companies registered in Qatar, ".net.qa" – reserved for IT-related companies registered in Qatar, and ".name.qa" – reserved for Qatari citizens and residents. These second-level ".qa" domains account for more than 50% of total domains registered locally. The business potential of being an accredited registrar based in Qatar is far more significant as indicated by the fact that only the Qatar-based registrars, including some SMEs, are allowed special rights of distribution of these zone domain extensions, CRA has stressed. Moreover, the renewal rate of domains under second-level is higher than the ones under ".qa", allowing for a more stable and sustainable annual recurring revenue stream. "QDR has an efficient and capable team of experienced professionals that are available to help registrars setup, manage and profit from this exclusive opportunity," the statement notes. The process to sign up for the registrar accreditation comprises the following steps: submit a completed application form and the necessary documentation complete a questionnaire and technical test, and pay the required fees.

(December 12, 2016) gulf-times.com



Saudi Arabia's Communication and Information Technology Commission (CITC) has invited bids for a new satellite license to expand broadband services to remote regions. Companies eligible for bidding include Saudi Telecom Company (STC), Etihad Etisalat (Mobily) and its broadband subsidiary Bayanat Al-Oula, Zain Saudi Arabia, Etihad Atheeb (GO Telecom) and Integrated Telecom Company (ITC). Abdulaziz Al-Ruwais,



The Ministry of Finance says the telecommunication sector of the country has achieved a remarkable progress recently. It has shown a growth of 21 percent in the first six months of this year. The increase in mobile phones used has resulted this situation. Total number of mobile phone subscriptions has exceeded 24

The Communications Regulatory Authority CRA will launch the new automated frequency management system (AFMS) on January 1 to digitize the application process for spectrum users in Qatar. Users will be able to submit their spectrum license requests online through a new e-Spectrum services portal, paving the way for a 'smooth digital experience, the CRA said in a statement. By bringing the process online, CRA said it intends to provide 'tangible benefits to all existing licensees or future spectrum users. Users will be able to submit applications for issuing, modifying, or cancelling their spectrum licenses. They will also be able to view active licenses, track submitted applications, register radio network/area deployments, view invoices, and make online payments. 'The CRA encourages all spectrum users in Qatar to create an account in the portal to manage their licenses more efficiently. To ensure a smooth transition, if you face any technical difficulty in submitting requests online, CRA may accept submissions manually until March 31, 2017. After this period, all requests must be submitted online, said CRA spokesperson Faisal al-Shuaibi. The AFMS is designed according to international standards, and will play an important role in efficient management of the radio frequency spectrum in Qatar, the CRA said. Through the new system, CRA intends to enhance the existing application process, and align its services with the Qatar Digital Government initiative. To benefit from the features, spectrum users should create an account using the e-Spectrum Services Portal accessible at <https://e-spectrum.cra.gov.qa> (December 5, 2016) menafn.com

Saudi Arabia

Governor of CITC, said the move is part of the country's 2020 National Transformation Plan of the telecoms sector, which targets wireless broadband coverage of 70% of homes in remote areas by 2020. The project will provide services to more than 140,000 people in 13 regions across Saudi Arabia.

(November 28, 2016) telegeography.com

Sri Lanka

million during the first six months of this year. It is an increase of 5.6 percent in comparison to the same period of last year. The number of fixed lines during the period has gone up to 3 million. The use of internet and email has increased by 11.4 percent.

(December 20, 2016) slbc.lk



Tunisia

The Tunisian government is planning to sell its shares in telecom operators Orange Tunisia and Ooredoo Tunisia in 2017, media reports, citing a senior government official. The state currently holds a 10% stake in Ooredoo and 51% of Orange's shares. The government has not yet decided whether it will

sell the shares via a tender or on the stock market, the official added. The Qatari-backed cellco Ooredoo leads the mobile market sector with a 40.2% share of the market, whilst third-placed Orange serves 26.3% of the nation's mobile subscribers.

(December 5, 2016) reuters.com



Turkey

The number of broadband Internet subscribers in Turkey has topped 59 million, while the rank of cellphone subscribers is nearly 75 million. Communications Minister Ahmet Arslan told state-run Anadolu Agency that the number of broadband Internet subscribers in Turkey reached 59.1 million in the third quarter of this year, the vast majority – 83 percent – of them being mobile broadband Internet users. He also said the number of cellphone subscribers in Turkey had reached 74.5 million, with 61.3 percent of them being advanced fourth-generation (4G or 4.5G in Turkey) users. Turkey's total population stood at 78.7 million in 2015, according to the country's statistics authority TÜİK. "Since going operational on April 1, advanced 4.5G telecom services have been rapidly embraced by consumers, and our people have gotten used to

high-speed mobile data. Monthly mobile data use per person rose to 2.2 gigabytes," said Arslan. He also stated that the total revenue of licensed electronic communication services providers rose by 12 percent in the third quarter, compared to the same period in 2015. "Over 600 businesses licensed by the Information and Communication Technologies Authority [ICTA] earned 11.6 billion Turkish Liras [\$3.7 billion] in revenue in the third quarter of this year. They invested 1.4 billion liras [\$460 million] in the same period," Arslan added. Three Turkish mobile operators – Turkcell, Vodafone, and Türk Telekom – won the rights to the country's advanced 4.5G network after paying more than 3.9 billion euros (\$4.5 billion) in a tender last year.

(December 14, 2016) hurriyetdailynews.com



United Arab Emirates

The International Telecommunications Union's, ITU, regional forum on Information and Communications Technology, ICT, measurement was held today in Dubai. Aimed at enhancing the countries' capabilities in the region to produce ICT related statistics on internationally agreed standards and national methodologies and indicators, the forum witnessed a significant presence of high-level officials and national experts in this field. In addition, representatives of ministries, regulatory agencies, national statistical offices, service providers, regional and international organizations, as well as other relevant stakeholders attended the event, which was hosted by the Telecommunications Regulatory Authority in coordination and collaboration with the ITU. In his welcome speech, Majed Al Mesmar, Acting Director-General of the TRA, said, "In the UAE, we put exceptional importance on the global indexes in various fields, especially those issued by the ITU. Our wise leadership ensures that these global indicators are our compass to strengthen our efforts towards enhancing competitiveness, through deriving 70 national objectives, many of which are based on these global indicators, in addition to mobilizing all government and national efforts to achieve these objectives by the UAE Golden Jubilee, within the UAE vision 2021. One example is our keenness to be ranked among the top ten countries in the

global Network Readiness Index, and to be ranked first in the Online Service Index, OSI." He added, "In the context of such a high interest in global indexes, and its emanating national objectives, Vice President, Prime Minister and Ruler of Dubai, His Highness Sheikh Mohammed bin Rashid Al Maktoum, has delivered an open letter to the people of the UAE, which included, among many issues, an order from His Highness to form working teams at government levels, under the heading of 'Executive Teams of the National Agenda'. These teams consist of 550 officials representing different sectors and levels, to work under his direct supervision in order to ensure the full achievements of these objectives in a timely manner." He concluded by saying, "On the infrastructure level, and through analyzing data and facts related to the national telecommunication network ability to accommodate the developments of smart cities and transition into the digital knowledge economy, efforts are being made in the UAE to adapt the telecom network with fifth-generation technologies, 5G, where national investments would reach around US\$10 billion by 2020." Brahima Sanou, Director of the ITU Telecommunication Development Bureau, highlighted the UAE's achievements in the ICT Development Index.

(December 14, 2016) wam.ae

REGULATORY ACTIVITIES BEYOND THE SAMENA REGION



Australia

Australian incumbent ruled out after Communications Minister Mitch Fifield imposes caps on spectrum holdings. Telstra has been barred from bidding in Australia's next 700-MHz spectrum auction, after the government imposed restrictions on the volume of airwaves any single player can hold. When Australia held its first 700-MHz 4G auction in 2013, Telstra and Optus won 2x20 MHz and 2x10 MHz of frequencies respectively. 2x15 MHz was left unsold. The government is now trying again to sell the remaining spectrum. Acting on advice from the Australian Competition and Consumer Commission (ACCC), Communications Minister Mitch Fifield last week directed the Australian Communications and Media Authority (ACMA) to restrict the amount of 700-MHz spectrum that any single operator can own to 2x20 MHz, making Telstra ineligible for the auction. The rules ensure that "the auction promotes competition and that the spectrum is allocated in the long-term interests of end users," said a statement from the Department of Communications and the Arts. The government has set a reserve price of A\$1.25 (€0.87) per MHz per head of population, which works out at approximately A\$867 million (€796 million) based on 2013 census data. In 2013's auction, Vodafone Australia was conspicuous by its absence. A year ahead of the auction, then-CEO Bill Morrow indicated that his company wanted to reuse its 1800-MHz spectrum for its 4G rollout instead. With ever greater demand for bandwidth and with Telstra not in the running, Vodafone Australia – now led by Iñaki Berroeta – might look again at taking part. Under the auction rules, successful bidders will be allowed to pay in installments'. If any spectrum is left on the block, a subsequent allocation process – open to all-comers regardless of their existing frequency allocation – will take place. "This will help ensure that valuable spectrum is not left unsold," the government said. The ACMA is due to invite prospective bidders to apply for the auction in January 2017.

(December 19, 2016) totaltele.com

Australia's Department of Communications and the Arts (DCA) has published an executive summary of recommendations made by the Australian Competition and Consumer Commission (ACCC) related to the upcoming auction of previously unsold 700MHz digital dividend spectrum. The key call from the regulator is for the imposition of an allocation limit on the sale process under which 'no person or specified group of persons' would be able to hold more than 2x20MHz in the 700MHz following the auction. Arguing that such a cap is in the long-term interest of end-users and would help prevent the monopolization

of the spectrum, the suggestion is notable as it will effectively exclude mobile market leader Telstra from the sale process. Indeed, with the ACCC noting that Telstra already holds over 50% of available low band spectrum, it said it believed that allowing it to acquire additional 700MHz frequencies would 'increase its dominance of the available spectrum for use in mobile markets'. Adding to that, the regulator said it did not consider that Telstra being unable to acquire additional 700MHz spectrum would constrain its ability to compete. By comparison, the ACCC has said that if either Optus or Vodafone Hutchison Australia (VHA) were to acquire at least 2x10MHz of 700MHz spectrum, it would allow them to offer better capacity and quality of mobile services, and achieve better depth and breadth of network coverage. Meanwhile, should TPG Telecom acquire between 2x10MHz and 2x15MHz in the band in question, the regulator has argued this would see it better placed to deploy a new 4G mobile network in the country. In the ACCC's opinion, it has said it believes a new entrant in the mobile market 'would promote competition for mobile services, place competitive pressure on the existing operators and fundamentally change the structure of the market'. (December 14, 2016) telegeography.com

Australia's Productivity Commission has recommended what it has termed 'a modernized and forward-looking approach to the subsidy and support arrangements that form universal telecommunications services in Australia'. The Commission argued that the country's existing Telecommunications Universal Service Obligation (TUSO) is 'currently outdated and should be replaced by a more targeted approach that recognizes the substantial public investment in the National Broadband Network (NBN), expected to be fully rolled out by 2020'. To that end, the Commission has proposed that the TUSO be replaced with a universal service policy objective to provide a baseline or minimum broadband (including voice) service to all premises in Australia, once the NBN rollout is complete. 'In a digital age, the current obligation – requiring Telstra to provide all Australians with access to basic fixed line telephones and payphones – is anachronistic and needs to change,' Commissioner Paul Lindwall said, adding: 'Once rolled out to all Australians, the NBN will be the foundation on which a future broadband based telecommunications universal service policy should be built. A completed NBN, which provides broadband and voice services to all Australians, will make the current TUSO obsolete.' The Productivity Commission is expected to submit its final report on the matter to government in April 2017. (December 7, 2016) telegeography.com

The Australian Government has announced details of the second round of the country's 'Mobile Black Spot Programme' ('MBSP'), revealing that it will deliver 266 new or upgraded mobile base stations across the country. In a press release the Department of Communications and the Arts (DCA) said that it expected these base stations to collectively provide: new and upgraded handheld coverage to over 17,700 square kilometers of regional and remote Australia; new external antenna coverage to over 52,300 square kilometers; and new mobile coverage to over 1,900 kilometers of major transport routes.

In total, this second round will see AUD213 million (USD159 million) invested in mobile base station infrastructure, with this funding having been supplemented by mobile network operators (MNOs) Telstra (AUD63.7 million), Optus (AUD36.4 million) and Vodafone Australia (AUD1.6 million). Further, six state governments have also co-contributed towards the latest phase of the programme, those being: New

South Wales (AUD8.3 million), Queensland (AUD13.7 million), South Australia (AUD1.5 million), Tasmania (AUD350,000), Victoria (AUD7.9 million) and Western Australia (AUD21.8 million). Finally, an additional AUD475,000 has been provided by local governments, businesses and community organizations. With the rollout of base stations funded under round two of the MSBP expected to commence in 2017, all three of the cellcos involved in the project have outlined the work they will carry out. Having constructed base stations in 429 locations in round one of the MBSP, mobile market leader Telstra has said it will build 148 mobile base stations in this second round, while Optus is set to roll out 114 new mobile sites. Vodafone, by comparison, is playing a smaller role in the project, having received funding for just four base stations at Aberfoyle (New England, NSW), Wongwibinda (New England, NSW), Condobolin (Parkes, NSW) and Yolla (Braddon, TAS). (December 1, 2016) [telegeography.com](#)



Cambodia

Cambodian 4G mobile operator South East Asia Telecom Group (SEATEL) has enlarged its existing spectrum holdings with a 2600MHz band concession, as the sole winner in a 'beauty contest' (or 'comparative tender') style auction held on 16 December, the Ministry of Posts & Telecommunications Cambodia (MPTC) confirmed on its website yesterday. In announcing the preliminary results of the auction, the MPTC noted that SEATEL has been awarded a 2x10MHz allocation (2510MHz-2520MHz/2630MHz-2640MHz), whilst the other 2x5MHz 4G spectrum block available at auction – 829.5MHz-834.5MHz/874.5MHz-

879.5MHz – remains unallocated due to lack of bids. The government decided to re-auction the two 4G concessions in the 800MHz and 2600MHz bands after the original license holders failed to utilize them. SEATEL launched commercial 800MHz-based 4G LTE services in Cambodia in July 2015, re-farming the legacy CDMA-800 frequencies which it inherited via the takeover of GT-Tell (Excell) two years earlier. Investors in SEATEL include Hong Kong's First Oriental Holdings Limited and Sun Bright International Holdings. (December 23, 2016) [telegeography.com](#)



Canada

In an announcement, the Canadian Radio-television and Telecommunications Commission (CRTC) declared that broadband internet access is now considered a basic telecommunications service for all Canadians, and has set the following targets for basic telecoms service provision across Canada:

- Fixed broadband internet access speeds of 50Mbps download/10Mbps upload
- an unlimited data option for fixed broadband access services
- the 'latest' mobile wireless technology available not only in homes and businesses, but also along major Canadian roads.
- The CRTC also announced the establishment of a fund to support projects in areas that do not meet the above targets. Applicants will be able to submit funding proposals in order to build or upgrade infrastructure for fixed and mobile broadband internet access services.
- The fund will:
- make available up to CAD750 million (USD560 million) over the first five years (over and above existing government programmes)

- be complementary to existing and future private investment and public funding
- focus on underserved areas
- be managed at arm's length by a third party.

The CRTC is shifting its regulatory focus from wireline voice to broadband services. Currently there is a subsidy for residential local voice services in rural and remote areas that amounted to approximately CAD100 million in 2016; this local voice subsidy will now be transitioned to the new funding mechanism for broadband projects that meet the new targets. The CRTC says that by the start of this year, 82% of Canadian households had access to speeds of 50Mbps download/10Mbps upload for fixed broadband services. Regarding the 18% of Canadian households lacking access at the target speeds, a report submitted by the CRTC to the Government of Canada's Innovation Agenda (see link below) says that these homes are 'typically located in rural communities or areas with relatively low population density, some of them near urban areas'. The report continues: 'Many of these communities lack sufficient transport or access networks needed to provide them

with broadband Internet services comparable to urban areas ... this digital gap results in many Canadians not being able to effectively participate in the digital economy ... Most First Nations communities are located in rural and remote areas. Several interveners pointed to demonstrable inequities between First Nations communities and other communities in Canada related to the availability of broadband Internet access services.' (December 22, 2016) telegeography.com

Canada's telecom regulator has approved the transfer of MTS's broadcasting rights to Bell parent company BCE, effectively approving the deal from its end and bringing it one step closer to completion after approval by MTS shareholders. The \$3.9 billion deal now has to be approved by Canada's Competition Bureau and the Minister of Innovation, Science and Economic Development before completion. The Canadian Radio-Television and Telecommunications Commission (CRTC) announced that it approved Bell's takeover of MTS' terrestrial broadcasting distribution undertaking (BDU), referring to its television services, which is the only approval needed from the CRTC for the deal. "The portion of the transaction involving telecommunications services is subject to the Telecommunications Act and does not require the Commission's prior approval," states the CRTC's written decision. "The Commission exclusively

reviewed the change in ownership of the licensed BDU. The authorization in this decision is not sufficient, in and of itself, for BCE to go ahead with the broader transaction, which requires authorizations from other entities." The CRTC notes that the transaction does not raise concerns with respect to its policies and regulations or trigger the payment of tangible benefits. It also states that its approval is partially based on Bell's commitment to build out telecom infrastructure in Manitoba, which the company has affirmed with multiple project announcements in the last several months. "Bell committed to invest in infrastructure in Manitoba, including in markets that are currently unserved, which will benefit the broadcasting system," the Commission says in its decision. Following the approval announcement, BCE and Bell's President and CEO George Cope released the following press statement: "We continue to make progress toward uniting Bell and MTS as we work with federal regulators to complete the remaining transaction approvals. Bell and MTS look forward to implementing our billion-dollar capital investment program to bring innovative broadband fibre and wireless services to Manitobans everywhere." The company says it expects to close the deal, which was announced in May 2016, in early 2017.

(December 21, 2016) mobilesyrup.com



China

China's recently revised spectrum regulations offer hope that the country's 5G frequencies can be made available via a market-based approach, rather than relying on administrative approval as in the past. According to the new Radio Regulations, which went into effect December 1, the country's radio frequency resources can be allocated through administrative approvals and a market-based approach, which includes bidding and auctions, C114.net reported. The government allocated TD-LTE spectrum to the country's three mobile operators three years ago, and about a year later awarded nationwide FDD-LTE 4G licenses to China Telecom and China Unicom, a move that helped put them on more equal footing with market leader China Mobile. The country's IMT-2020 (5G) Promotion Group last month announced technical specifications for the second phase of 5G tests. According to the Ministry of Industry and Information Technology (MIIT), China will accomplish 5G technology R&D tests in 2016-2018 and carry out product R&D tests in 2018-2020. The general industry consensus is to bring 5G to the market in 2020, with Phase 1 standardization of 5G set for completion sometime in 2018. (December 5, 2016) mobileworldlive.com

China's three mobile operators added another 26.5 million 4G customers in October, taking the country's 4G user base to more than 700 million. China Mobile continued to widen its lead on rivals, adding 16 million 4G subscribers last month, while China Telecom added 5.5 million and China Unicom picked up 5.1 million. China Mobile announced last week its 4G subscriber base surpassed the 500 million mark in early November. China Telecom has 113 million 4G users and China Unicom has 94 million. The three operators have collectively added more than 288 million 4G subscribers in 2016. At the end of October, China Mobile had 846 million total mobile subscribers (a net gain of 19.5 million this year), China Unicom had 262.6 million subs (10.3 million net additions) and China Telecom had 214 million (up by 16 million). At Huawei's Mobile Broadband Forum in Tokyo last week, Li Yue, China Mobile president and CEO, said it has built out 1.4 million 4G base stations in just three years, which represents a third of the global total. It also deployed the largest VoLTE network in the world, reaching 313 cities in the country.

(December 1, 2016) mobileworldlive.com



Costa Rica

Sector watchdog SUTEL has announced plans to auction a combined total of 70MHz of spectrum in the 1800MHz and 1900MHz/2100MHz bands. The sale will feature seven 2x5MHz blocks, and is intended to address the issue of spectrum concentration – state-owned incumbent Kolbi is understood to be barred from participating due to the extent of its existing spectrum holdings – and allow operators to improve service quality for customers. In a statement, SUTEL Chairman Manuel Emilio Gutierrez Ruiz explained: 'The radio spectrum that will be made available in this auction will enable an increase in capacity for the country's mobile telephony and data networks ... or the eventual incorporation of new operators to the market.' The official also added that the winners of the auction would be required to meet certain quality of service objectives. Interested parties have until February 13, 2017 to submit their applications.

(December 14, 2016) [telegeography.com](#)

The telecoms regulator the SUTEL has determined that there is effective competition in four of eleven

markets it has analyzed and, as such will no longer impose tariff regulations on those sectors. The four areas deemed to be competitive are: international telephony, fixed internet, international roaming and transit telecommunications. 'These services will no longer have tariff regulation after the publication of this decision in the Official Gazette. As market regulator, SUTEL will continue to monitor the quality of services, to protect the rights of users and intervene as sectoral competition authority, if it detects anticompetitive practices,' SUTEL chairman Manuel Emilio Ruiz Gutierrez explained. Of the other markets analyzed the fixed telephony, termination on individual fixed networks, termination on individual mobile networks and origination markets were deemed to have no effective competition, and would remain subject to tariff controls. A decision on the final three markets – local loop unbundling services, access and origination on a mobile network and mobile telecommunications – has been postponed until Q1 2017 due to differences in the information provided by operators. (December 6, 2016) [telegeography.com](#)



Cyprus

The Cypriot government is aiming to present a new bill to parliament outlining the privatization of state-owned national operator Cyprus Telecommunications Authority (Cyta) in January 2017, while the disposal of Cyta's Greek subsidiary Cyta Hellas would take place in March or April next year, Reuters writes. The Finance Ministry's commissioner of privatizations Constantinos Herodotou revealed that the government was in the 'final stages' of developing legislation to sell a minority stake in Cyta, adding that a bill for the full privatization of Cyta Hellas would be presented earlier than its parent company: 'The timing for this assuming we get all the necessary final approvals will be to launch the [Cyta Hellas] transaction around

March or April 2017.' A debt bailout deal between Cyprus and international creditors requires the privatization of Cypriot institutions including Cyta. Under the terms of the bailout, Cyprus has to raise EUR1.4 billion (USD1.6 billion) by selling off state-owned companies in sectors including telecoms, energy and ports. In December 2015 the government approved legislation to privatize Cyta; the bill aimed to preserve salaries, job security, advancement prospects and the collective workers' agreement, while new legislation also defines powers of the state to intervene in the company for national security reasons. (December 8, 2016) [telegeography.com](#)



European Union

EU privacy regulators have asked WhatsApp to explain its privacy policy better and whether it's sharing any user data with parent company Facebook. The so-called Article 29 group wrote to WhatsApp already in October after the company said it would start sharing data with Facebook. WhatsApp subsequently agreed to suspend the practice following pressure from data protection authorities in Europe. However, the regulators noted in a new letter to the company that WhatsApp stopped the information sharing only for the purposes of "improving Facebook products and advertising experience". They want to know if WhatsApp is also sharing user data with Facebook for other purposes. The Article 29 group also called for a more detailed explanation of WhatsApp's privacy policy and answers to the questions in its previous letter from October. Furthermore, they pointed out that WhatsApp is not living up to the requirements

of the EU data protection directive in that it has not appointed a representative in each EU country where it's processing personal data. This requirement was recently confirmed in a case against the company by the Dutch Data Protection Authority. The Dutch and Spanish regulators are leading the work group handling the case with WhatsApp for the EU regulators. (December 20, 2016) [telecompaper.com](#)

The EU Parliament, Council, and Commission this week agreed on a timeline for allocating 700-MHz spectrum for mobile services. In a statement the EU said the frequencies must be assigned to mobile operators and made available for mobile broadband services by June 30, 2020 at the latest. Member states are required to present their plans for allocating the spectrum no later than 30 June 2018. This is the same timeframe put forward by the European

Commission in February 2016, and backed by the Council in May. "Better spectrum coordination is vital to provide higher quality internet to all Europeans. It paves the way for 5G, the next generation of communication networks, and the Internet of Things. We made a first step today with a joint approach to use the 700 MHz band in the EU," said Andrus Ansip, the Commission's vice president for the digital single market (DSM). In addition, the EU said broadcasting will remain the primary use for the sub-700 MHz band, covering frequencies from 470 MHz-694 MHz, until 2030. "This is balanced with the opportunity for each member state to take a more flexible approach to alternative spectrum use – such as advanced mobile multimedia services – according to different levels of digital terrestrial television (DTT) take-up," the Commission said. The agreement is also the first deal made under the DSM strategy presented in May. "A coordinated strategy for the whole UHF band asserts our European vision," said Günther Oettinger, commissioner for the digital economy and society. "It ensures that Europeans can access innovative services and creative content on the move from their tablets and Smartphones, as well as on smart TV sets at home." (December 15, 2016) totaltele.com

The European Commission and European Investment Bank (EIB) launched a broadband infrastructure fund that aims to raise €500 million for network deployments in underserved areas. Called the Connecting Europe Broadband Fund, it is one of the first initiatives under the European Fund for Strategic Investment (EFSI), and hopes to attract private and public investors. The Commission will contribute €100 million from the Connecting Europe Facility, while three national development banks – Germany's KfW Bankengruppe,

France's Caisse des Dépôts et Consignations, and Italy's Cassa Depositi e Prestiti – have all expressed interest in becoming anchor investors. "I am grateful to our financial partners for the establishment of this broadband fund. It is an important development for smart and efficient funding of broadband projects, especially in underserved areas," said Günther Oettinger, the EC's digital economy and society commissioner. "It is a great step towards a European gigabit society for all." The Commission has set a target of providing 1-Gbps broadband to schools, hospitals, and large businesses, and a minimum of 100-Mbps for all households – which would have to be upgradeable to gigabit broadband – by 2025. The Connecting Europe Broadband Fund aims to invest in seven-12 broadband projects per year from 2017-2021. The investments will range from €1 million to €30 million, for projects costing €150 million or less in total. The fund is expected to unlock additional investment of €1 billion-€1.7 billion in broadband deployment in underserved areas lacking very-high-capacity networks. The fund aims to have invested in 20 countries by 2021. "High-speed Internet is fundamental to the success and development of businesses," said EIB president Werner Hoyer. "Until today, smaller-scale broadband projects did not have easy access to funding and EU financial instruments did not exist. Consequently, projects in less populated or rural areas, where purely private-led initiatives may not see the economic benefits of deploying broadband networks, were difficult to implement. The new fund will help bridge this market gap, and I am glad that the EU Bank is part of this joint initiative," he said. The fund is expected to become operational by mid-2017. (December 12, 2016) totaltele.com



France

French regulator ARCEP announced plans to change the way the quality of service (QoS) indicators for fixed internet and telephone services are measured, proposing a methodology based on crowdsourcing tools to reflect users' experience. In order to commit to this new approach, the regulator is consulting on a draft ruling amending the Framework Decision of 2013 on measuring and publishing fixed service QoS indicators (Decision No. 2013-0004). Based on this draft ruling, certain provisions will be removed from the second half of 2017, as they are judged to be no longer relevant to the QoS scoreboard. The next step towards the new methodology will be the publication

of a study comparing different crowdsourcing tools on the market, expected in early 2017. This comparative analysis follows a call for partnership proposals earlier this year, when the regulator received ten responses from industry players interested in collaborating on the new methodology. Alongside the consultation, which closes on 05 January 2017, ARCEP has also published the H1 2016 fixed service QoS scoreboards and said that they will be the last to follow the current methodology, which is based on tests performed in a controlled environment. (November 29, 2016) telecompaper.com



Germany

Germany's Federal Network Agency (FNA) has formally set the charges for 'layer 2 bitstream access' after its proposal was approved by the European Commission (EC). As such, incumbent telecoms operator Telekom Deutschland (the domestic operating unit of Deutsche Telekom) may charge a fee of EUR15.17 (US\$15.78)

per month for ADSL connections, EUR18.56 for the VDSL 16Mbps/25Mbps/50Mbps options (or EUR16.55 per month if competitors commit to a certain number of lines upfront under Telekom's 'contingent model') and EUR19.10 for VDSL 100Mbps connections. 'I very much welcome that the EC has

given our decision the green light. For network areas that can be upgraded with vectoring technology, a high-quality alternative is now available for access to the local loop,' commented the FNA's President Jochen Homann. In October the FNA published, and provisionally put into force, Telekom Deutschland's amended and supplemented reference offer for layer 2 bitstream access, which sets out the specific conditions and mutual obligations applicable should competitors seek layer 2 bitstream access from the incumbent. The expedited decision implementing the layer 2 bitstream reference offer was necessary, as from November 1, 2016 Telekom is obliged, when it deploys vectoring outside proximity areas (outside a radius of 550m from a main distribution frame), to offer its competitors a layer 2 bitstream product as a substitute for access to unbundled loops. Prior to this date, it was sufficient for Telekom to offer IP-based layer 3 bitstream access. (December 23, 2016) [telegeography.com](#)

The German parliament has adopted new legislation requiring telephone and internet providers to inform their customers about contract limits and

network performance. Under the new Transparency Regulation, originally proposed by the Federal Network Agency, telephone and internet providers will need to inform customers about the nature of contract terms before any agreement is made. Each customer invoice will be required to list the minimum term and notice period for the contract. The new law also requires providers to publish information on the data transfer rate agreed in the contract, as well as the connection quality which is actually delivered. Customers should be able to find this information with minimal effort, according to the regulations. Providers also need to make customers aware of the option to test their network connection, including the offer by the Federal Network Agency to measure their network performance. The German federation of consumer protection agencies VZBZ welcomed the legislation as a "positive step" but called for more to be done. In particular, the VZBZ noted that customers had no straightforward mechanism to terminate their contract if their suppliers did not meet the contractual requirements and urged the government to require a termination clause. (December 5, 2016) [telecompaper.com](#)



Hungary

Hungary's National Media & Infocommunications Authority (NMHH) has invoked the EU net neutrality framework rules to order the country's largest fixed and mobile operator Magyar Telekom to cease 'zero rating' selected over-the-top (OTT) internet video services for its mobile users (i.e. giving subscribers access to the services without registering any data volume usage). Telekom's 'Unlimited TV & Film' option allows 24-hour unlimited access to the mobile/OTT 'TV Go' and 'HBO Go' services with no data traffic being deducted from the user's package allowance (nor any data usage threshold triggering a slowdown in speed). The NMHH decided that Telekom 'discriminated' against competing OTT internet-based video services in violation of the EU net neutrality rules, which it said were applicable because the service was delivered over the public internet, rather than being a managed video service.

(December 6, 2016) [telegeography.com](#)

The Hungarian government's Digital Commissioner, Tamas Deutsch, gave a press conference this week to announce that construction of the planned 'Superfast Internet' network will commence in 139 districts in February 2017, under the Digital Prosperity/Digital Welfare Programmes. As reported by Hungarian news agency MTI, Commissioner Deutsch, who is attached to the Prime Minister's Office, stated that HUF150 billion (US\$511 million) of investment over the next two years will go into meeting EU targets of ubiquitous 30Mbps-plus broadband access in households, businesses and public institutions by the end of 2018. According to figures quoted by the government, 1.9 million households in Hungary currently lack access to networks capable of 30Mbps speeds.

(December 1, 2016) [telegeography.com](#)



Ireland

The Irish ministry of communications has presented its final Report of the Mobile Phone and Broadband Taskforce, with 40 measures on how the country can accelerate the delivery of its telecom infrastructure. The report comes ahead of Ireland's National Broadband Plan rollout, aimed at bringing high speed broadband to all premises throughout the country. Minister for Arts, Heritage, Regional, Rural and Gaeltacht Affairs Heather Humphreys said that the appointment of a broadband officer in every local authority will help assist deployment on the ground in every county nationwide. Funding for this measure

will come from the ministry, with officers also acting as a single point of contact for parties building out infrastructure. The ministry will also work with the local authorities to develop local digital strategies. Other actions outlined in the report include measures to streamline and prioritise planning procedures for telecoms infrastructure, a licensing regime to allow people to boost their home signals using repeaters, the build out of new ducting along the M7/M8 motorway, measures to help stakeholders make informed choices in relation to their network provider and handsets, and general network improvements.

The ministry for communications will work with telecom operators and regulator ComReg to identify and then deal with mobile blackspots, including through the possible assignment of spectrum in the 700 MHz band. To assist consumers to make informed choices on products and network services, ComReg will develop and publish a new network coverage map, and develop a testing regime to establish the performance of mobile phone handsets. From the first quarter of next year, all Local Authorities will apply waivers in respect of development contributions for telecoms infrastructure developments. The Department of Housing, Planning, Community and Local Government will bring forward legislation to allow current planning exemptions for 3G antennas to extend to 4G antennas, and will review the Planning and Development Guidelines. Transport Infrastructure Ireland has started work on a 95 km duct along the M7/M8 motorway; this will complete ducting on the Cork-Dublin route. Transport Infrastructure Ireland has also committed to reviewing the cost of access for telecoms operators to its ducts. ComReg will introduce a licensing regime for repeaters in 2017. This will allow householders and businesses to install high quality signal repeaters on their buildings, to boost in-house signals. Finally, planning guidelines

will be reviewed to ensure consistency by local authorities, and planning application processes will be streamlined. An Implementation Group will be established to drive and monitor the implementation of the actions in the Taskforce report, with an annual forum so that stakeholders can discuss wider issues impacting on the rollout of telecoms infrastructure. The Taskforce noted that mobile operators are completing the upgrades of their 3G and 4G networks following ComReg's 2012 multi-band spectrum auction. At least one operator now has over 90 percent population coverage with 4G. ComReg expects to allocate spectrum in the 3.6GHz band in 2017. This will release an additional 86 percent of spectrum capacity into the market. Budget 2017 includes EUR 8 million to free up the 700 MHz spectrum band, particularly important in rural areas. It is expected that the band will be cleared for use by the telecoms sector in 2020. Around 1.4 million premises now have access to high speed broadband, with further investment promised. The procurement process for the State Intervention is also well underway. The three bidders in the process have indicated that they will propose a predominantly fiber-to-the-home network for rural Ireland.

(December 21, 2016) telecompaper.com



ITU

ITU has been informed by the Italian Ministry of Economic Development of the successful completion of the switch-off process of television broadcasting transmissions on 61 frequencies, the use of which had been causing harmful interference into television broadcasting services of neighboring countries since 2005. The first report of harmful interference and request for assistance was sent to ITU's Radiocommunication Bureau by the government of Slovenia in August 2005. Since then the issue was regularly reported to ITU's Radio Regulations Board, and it involved other countries neighboring Italy from 2011. The issue was also raised at ITU's World Radiocommunication Conferences of 2012 and 2015 and to the European Union Radio Spectrum Policy Group from 2012, with slow progress until 2014. From 2014, under the newly elected government of Matteo Renzi, Sub-Secretary of State Antonello Giacomelli, in charge of telecommunications, initiated the adoption of a series of legislative, regulatory and financial measures to ensure that the use of frequencies by Italian television broadcasters would be brought in line with the relevant international agreements signed by Italy, i.e. ITU's Radio Regulations and the ITU Regional Agreement, Geneva, 2006, which provides the international framework for terrestrial television broadcasting in the region. In 2015, the process of applying these measures was initiated by the Italian

Ministry of Economic Development, together with the Italian Telecommunication Regulator, AGCOM. It was successfully completed on November 29, 2016, with the only exception of the province of Marche, which was recently hit by earthquakes and for which the process has been temporarily suspended. Houlin Zhao, ITU's Secretary General, congratulated Sub-Secretary of State Antonello Giacomelli "for his tenacious leadership in the design, adoption and successful implementation of this complex process, overcoming a number of significant political and financial challenges. I am confident that such a process will serve as a reference to other countries in reallocating spectrum in an elegant and efficient way." François Rancy, Director of ITU's Radiocommunication Bureau, also commended Eva Spina, Director General of Spectrum Planning and Management at the Ministry of Economic Development, and Angelo Marcello Cardani, Chairman of the Italian Telecommunication Regulator, AGCOM, "for their contribution to bringing Italian television transmissions in conformity with the international regulatory framework, thereby enabling improved provision of digital television broadcasting and mobile broadband in Europe." (November 29, 2016) itu.int



Mozambique

The telecoms regulator, the Instituto Nacional de Comunicacoes de Mocambique (INCM), says it has now deactivated five million unregistered mobile phone accounts following the final deadline for users to log their details with their network provider. The registration process has dragged on for several years, with a number of extensions to the deadline,

but media reports the watchdog as confirming that the latest cut-off date of 30 November was the last date for registration and it has gone ahead and deactivated all ineligible accounts. Mozambique was home to around 18 million mobile users at the end of September, with the market served by three players: mCel, Movitel and Vodacom. (December 12, 2016) Agence Ecofin



Nigeria

Nigeria's central government has gone into battle with its telecoms regulator over operators' desire to raise rates for mobile data. The Nigerian Communications Commission (NCC) had approved a proposed rate increase, due to take place on December 1, of between 90% and 300% in data charges. But at the last minute the Nigerian Senate and the Minister of Communications stepped in to prevent the increase. Adebayo Shittu, the communications minister, denied that his ministry had approved the price rise. The Association of Licensed Telecommunications Operators of Nigeria (Alton) responded by warning that services would suffer, calling current tariffs "unsustainable". Operators in Nigeria are "unable to recover the cost of providing data services and reinvest in capacity expansion to accommodate the increased usage arising from lower tariffs", said Alton. "The situation has been compounded by the recent economic challenges characterized by the

steep depreciation of the naira [Nigerian currency]. It is characterized by the need to resort to the parallel market and foreign exchange scarcity, which have considerably increased the capital and operational cost of providing telecommunications services." The average price for mobile data was 0.53 naira per megabyte – and one naira is currently about one-third of a US cent. Etisalat is the most expensive of the major operators in the market, charging 0.94 naira a megabyte, slightly above the NCC's proposed floor price of 0.90 naira. But Globacom charges only 0.21 naira a megabyte – equivalent to \$0.66 per gigabyte of data. Shittu distanced himself from the NCC's decision, saying it was not the government's role to approve tariffs. "I can tell you that I was never a party to it. Government never gave any such instruction. This government believes in democratic process and we would continue to protect the interest of Nigerians." (December 2, 2016) globaltelecomsbusiness.com



Philippines

The government of the Philippines plans to institute a new bill by 2017 that will reform the country's telecommunications industry, expanding the powers of regulators and allowing foreigners 100% ownership. Senator Sherwin Gatchalian says the reforms will give the National Telecommunications Commission (NTC) 'more teeth', noting: 'We need to strengthen the powers of the regulator. Make sure that it's independent, it should have extensive powers to make sure that the consumers are protected and competition is healthy.' The move has been welcomed by the president of consumer group TXTPower, Tonyo Cruz, who said that the Commission has perhaps been guilty of 'betraying the interest of the public by how it manages the industry as a whole'. The comments relate to the recent decision by the NTC to rubber stamp PLDT Inc. and Globe Telecom to use 700MHz spectrum, which was previously held by a subsidiary of San Miguel Corporation (SMC) in what Cruz dubbed 'a midnight deal'. Here, Senator Gatchalian has assured TXTPower that his committee will look into how the NTC could be reorganized to avoid the same thing happening in future. Further, the bill will look to amend outdated laws restricting foreign ownership of telcos, which many see as a barrier to the entry of new players, thus limiting competition in the industry as a whole. Among the amendments to the Public Service Act, or Commonwealth Act No. 146, is a plan to remove telecoms operators from being

classified as a public utility, which would remove the need to amend the 1987 Philippine Constitution to liberalize the country's telecommunications sector and allow foreign players to operate as public utilities.

(December 9, 2016) telegeography.com

Five companies reportedly have expressed interest in participating in an auction for a third spectrum license in the Philippines, a market currently dominated by PLDT's Smart and Globe Telecom. National Telecommunications Commission (NTC) commissioner Gamaliel Cordoba said five companies – Converge ICT and Now Corp (which were revealed previously by the regulator) as well as three unnamed firms – are interested in becoming the country's third mobile operator, according to Malaya Business Insight. The country's telecoms regulator said last month it aims to sell unused and unassigned spectrum by the middle of next year in an auction open only to new mobile players. The NTC said the available spectrum, reportedly 85MHz, will be sold in one block, but the regulator needs to discuss the terms of the auction with the Department of Information and Communications Technology. The frequencies will include 3G airwaves forfeited by PLDT after acquiring Digital Telecommunications in 2011, as well as spectrum in the 700, 2,500 and 3,500MHz bands returned by PLDT and Globe as a condition for acquiring San Miguel Corp's telecoms assets in May.

Now Corp, which provides internet and cable services to businesses in the Manila area and obtained a mobile services license in 2006, plans to team up with a foreign partner, the newspaper reported. Foreign ownership is limited to 40 per cent in the Philippines. Converge ICT is a local ISP serving the residential

and enterprise markets. NTC deputy commissioner Edgardo Cabarios has said a third player needs to invest at least PHP30 billion (\$600 million) to build a nationwide network and have more than 2,000 base stations. Smart has more than 12,000, while Globe has about 7,000. (December 2, 2016) [mobileworldlive.com](#)



Poland

The regulator UKE has published a plan of work for 2017. The regulator has defined its objectives as increasing the availability and use of telecommunications services, stimulating competition in the market, protecting consumers, and international coordination associated with the planned release of the 700 MHz frequency band. The regulator assumes broadband internet penetration will reach 42 percent by the end of 2017. To promote competition promotion,

UKE plans to undertake a review of six relevant markets subject to ex-ante regulation. In the field of spectrum harmonization, UKE would like to complete international negotiations on the frequency band 694 - 790 MHz planned for release, in line with EU plans. Poland may require a two-year derogation from the EU's deadline for the release of 700 MHz frequencies in 2020, and might release the frequencies only in 2022. (December 6, 2016) [telecompaper.com](#)



Senegal

The Authority of Regulation of Telecommunications and Posts (ARTP) has confirmed that around five million SIMs have been disabled for failing to comply with its revised deadline date to register, 19 November 2016. The head of ARTP, Abdou Karim Sall, said that the regulator could no longer tolerate unidentified SIM cards on the incumbents' networks, having already given users six months to fall into line. As previously reported by CommsUpdate, in May this year Mr. Sall gave the country's telecoms operators – Orange Senegal, Tigo Senegal and Sudatel Senegal (Espresso) – six months to complete a mandatory identification of all mobile telecoms subscribers. Starting 10 May, industry players had six months to

comply he said, noting that to help ensure the success of the verification process for identifying users, all operators would be given access to government-held national identity files. Ten days after the expiry of the deadline, however, the ARTP official confirmed: 'We have had to cancel over 2.9 million numbers for Sonatel, more than one million at Tigo and more than 1.73 million numbers for Espresso, making a total of over five million cancelled numbers which have been struck off.' That being said, Mr. Sall added that customers can still have their locked SIM cards reactivated by going to their service provider and completing the necessary customer identification forms. (December 12, 2016) [telegeography.com](#)



Sierra Leone

The National Telecoms Commission (NATCOM) in Sierra Leone has appointed The Subah Group to tackle SIM Box Fraud and improve Revenue Assurance in the country. According to Birendra Sasmal, CEO of The Subah Group, "Our SIM Box solution can detect and block SIMs as well as identify the physical location of fraudulent SIM box operations so they can be destroyed. We will be deploying all our expertise and experience to increase revenues for both the operators and Government of Sierra Leone." Subah has already deployed successful systems in both its home country of Ghana and in The Republic of Guinea where it is estimated that an additional US\$1.5 million of additional voice traffic is now being billed every month by operators. This, in turn, is producing an extra US\$30,000 a month in tax revenues for the Government of Guinea. Fraudulent SIM Boxes are a blight on networks both in Africa – and around the world -with criminals using the Internet and VSAT to convert international incoming voice calls into domestic calls and avoid the higher termination rates. Fraudulent SIM boxes can be found in the

most innocuous of places. They are often operated remotely with locals returning regularly to load credit or insert new SIM cards. In fact, so lucrative is this activity, some SIM box operation sites are protected by armed guards. As a result, operator revenues are reduced and Governments are missing out on tax revenue. In its 2015 Global Fraud Loss Survey, The Communications Fraud Control Association estimated that SIM Box Fraud cost operators \$5.97 billion in lost revenue. Subah will be monitoring international voice and data traffic between Sierra Leone and overseas destinations using its SIM Box Fraud and Traffic Monitoring systems. NATCOM carried out a thorough evaluation of bids submitted by twelve companies (eleven international and one local). Sensie Kannon, The Director General of NATCOM, said "We estimate that our Government is losing close to US\$1 million in tax revenue every month as a result of poor and ineffective monitoring of the gateway system. This is money that our country needs. (December 2, 2016) [TechMoran](#)



Singapore

Australia-based telco bags fourth license with €69.7 million bid. Australia's TPG Telecom is set to become Singapore's fourth mobile operator, after winning the country's new entrant spectrum auction (NESA). The company scooped 20 MHz of 900-MHz spectrum and 40 MHz of 2.3-GHz spectrum reserved for new players with a bid of S\$105 million (€69.7 million), the Infocomm Media Development Authority (IMDA) said. TPG's license becomes effective on April 1, 2017 at the earliest, at which point TPG will have 18 months to roll out nationwide, street-level 4G coverage. It is required to provide coverage in road tunnels and in buildings within 30 months, and within 54 months, its network must also cover Singapore's underground railway lines and stations. TPG was up against local fiber operator MyRepublic. A third hopeful, airYotta, did not qualify for the auction. The IMDA hopes a new entrant will stimulate greater competition for Singapore's three operators, M1, StarHub, and incumbent Singtel. Now that the NESA auction has been completed, the IMDA will proceed with auctioning off a further 175 MHz of spectrum across the 700 MHz, 900 MHz, 2.3 GHz and 2.5 GHz bands. The auction will be open to all operators, which now includes TPG Telecom. The 700-MHz and 900-MHz frequencies will be split into lots of 2x5 MHz and will carry a minimum price of S\$20 million per lot. 5-MHz lots of 2.3-GHz and 2.5-GHz frequencies will carry a reserve price of S\$3 million. Licenses in the 700 MHz band will start from

1 January 2018 and will have duration of 15 years. All other bands will become available from 1 April 2017 and licenses will last for 16 years. (December 15, 2016) totaltele.com

Singapore's Infocomm Media Development Authority (IMDA) announced that the sale of 2G-only mobile devices in the city-state will not be allowed from January 1, 2017. In its edict, the watchdog notes that any retailers or equipment suppliers caught selling unregistered 2G-only mobile devices for use in Singapore could be given a financial penalty. They also said that dealers with a valid license will be allowed to continue selling such devices, but only for export or overseas use. The IMDA says the decision forms part of its aim to withdraw 2G networks and mobile services in the Republic on April 1, 2017. Last month Singapore's three mobile network operators (MNOs), Singtel, StarHub and M1, announced that any new pre-paid SIMs sold from November 15 would no longer support 2G handsets. The MNOs' statement added that while existing pay-as-you-go SIMs are not affected by the plan, they would urge all customers still using GSM-based handsets to upgrade to a 3G or 4G-enabled device as soon as possible. 'A wide range of 3G and 4G handsets are available at retailers across the island to enable customers to make the transition to 3G or 4G networks,' the telcos said

(December 8, 2016) telegeography.com



South Africa

South African telecoms regulator the Independent Communications Authority of South Africa (ICASA) has reportedly approved the takeover of South African telecoms operator Neotel by Pan-African fiber-optic provider Liquid Telecom (majority-owned by Econet Wireless), media writes citing well-placed sources with the knowledge of the situation. The development comes hot on the heels of the announcement that Liquid secured US\$300 million in funding last month to support its expansion plans in Africa, including the ongoing acquisitions in South Africa, Botswana and Tanzania. Liquid agreed to acquire the controlling stake in Neotel from Tata Communications and

Nexus Connexion-led minority shareholders for ZAR6.55 billion (US\$430.8 million) in June 2016. Liquid Telecom is partnering with investment group Royal Bafokeng Holdings (RBH), which has agreed to take a 30% equity stake in Neotel. Liquid said in a press release: 'The transaction, which is subject to regulatory approvals, is transformative and will create the largest pan-African broadband network ... Through a single access point, businesses across Africa will be able to access 40,000km of cross-border, metro and access fiber networks. These currently span twelve countries from South Africa to Kenya, with further expansion planned.' (December 19, 2016) TechCentral



South Korea

South Korea's telecommunications regulator announced that it will cut interconnection fees among mobile carriers for the use of their networks, while abolishing so-called asymmetric rules for the fees that have helped smaller rivals. In a biennial industrywide fee adjustment, market leader SK Telecom Co. will charge 17.03 won (\$0.01) a minute this year to its smaller rivals when their users call SK Telecom subscribers, down from 19.53 won last year, the Ministry of Science, ICT and Future Planning said. For KT Corp., interconnection fees will fall to 17.14 won this year from 19.92 won last year. LG Uplus Corp., the smallest of the nation's three mobile

phone operators, will charge 17.17 won to its bigger rivals this year, down from 19.96 won last year. Starting next year, interconnection fees for the three companies will be set at 14.56 won. South Korea has long applied the asymmetric rules for the country's telecom industry to lose a market leader's grip on the market. The planned abolishment of such rules for interconnection fees comes as LG Uplus gained market share and mobile phone users are increasingly paying for their use of data, rather than voice calls, the ministry said. In 2011, SK Telecom accounted for 54.7 percent of the market, while KT held 29.7 percent and LG Uplus 15 percent. Last year, the market shares

of SK Telecom and KT fell to 48.2 percent and 26.9 percent, respectively, while LG Uplus saw its market share rise to 21.8 percent, according to the ministry. Interconnection fees for land-line telephones will be lowered to 11.98 won this year, from 13.44 won last year. For Internet-based phones, the fees will be raised to 10.78 won this year, from 9.96 won last year, the ministry said. (December 22, 2016) koreaherald.com

South Korea's multi-service operators have been handed record fines for using illegal promotions linked to bundled services comprising mobile voice, fixed broadband and IPTV, the Korea Times reports.

SK Telecom (SKT), KT Corp and LG Uplus have all been criticized by the regulator for offering promotions worth around KRW500,000 (USD429) to each customer signing up to a triple-play bundle. As a result, the KCC has fined the trio a total of KRW10.7 billion, a figure which it said represented the highest ever in terms of those imposed with regards to bundled services. LG Uplus, the market's smallest mobile network operator (MNO) in terms of subscribers, has been the most heavily penalized, facing a fine of KRW4.59 billion. SKT and LG Uplus, meanwhile, have been fined KRW3.75 billion and KRW2.33 billion, respectively. (December 8, 2016) telegeography.com



Spain

Spanish operators have reportedly opted not to submit bids for a tender published by the Ministerio de Energia, Turismo y Agenda Digital (MINETAD) related to the maintenance of the country's payphones, according to El Pais. With the ministry having launched the tender in September 2016, it is understood that the lack of interest from operators is related to what they view as the insufficient compensation offered under the tender to cover the costs of the required maintenance. As a result, it appears likely that the authorities will be required to assign responsibility for maintaining the nation's payphones by decree, with the report saying that indications are fixed line incumbent Telefonica Espana (Movistar) will be selected, as it was previously in 2011. As per the

country's existing universal service obligations, there must be at least one public payphone per 3,000 inhabitants in each town with a population of more than 1,000, while it also requires at least one telephone box in all municipalities with less than 1,000 inhabitants. The report notes that there are currently just under 26,000 payphones in Spain, down significantly from 100,000 in 2000. Notably, in March 2016 local telecoms regulator the Comision Nacional de los Mercados y la Competencia (CNMC) outlined plans to remove universal service obligations for public payphones, citing both decreasing demand and the increased cost of their provision, though the MINETAD has yet to respond to this proposal. (December 23, 2016) telegeography.com



Tanzania

The Tanzania Communications Regulatory Authority (TCRA) has given the thumbs up to the takeover of one of the country's leading ISPs, Startel Tanzania, which offers services under the brand name Raha, by Liquid Telecom Group, an independent data, voice and IP provider in eastern, central and southern Africa. The Citizen reports that Liquid Telecom issued a statement confirming the acquisition of Raha, marking its entry into Tanzania after a similar recent move in Kenya. Startel Tanzania was formed to provide high speed broadband and internet-based solutions to businesses and consumers in and around Dar es Salaam. It offers ADSL, fiber and satellite connectivity, and also uses WiMAX technology to provide broadband connectivity solutions for SMEs, schools and large enterprises. Raha has over 1,500 businesses on its network. The details of the transaction were not disclosed. Commenting on the takeover, Liquid Telecom chief executive officer Nic Rudnick said: 'We are very pleased to announce that this transaction has received its final approval. The agreement enables Liquid Telecom to expand

its footprint into Tanzania, a growing and dynamic African country.' Last month the pan-African fiber-optic provider Liquid Telecom, which is majority-owned by Econet Wireless, secured ZAR4.30 billion (USD300 million) to help fund expansion in Africa. At the time Mr. Rudnick revealed that Standard Bank is arranging the syndicated loan to help fund the ZAR6.55 billion acquisition of the controlling stake in South African broadband operator Neotel from Tata Communications of India, in addition to other deals currently underway in Botswana and Tanzania. Rudnick said: 'The purpose of the additional funding would be to allow the group to expand ... Our strategy is to roll out fiber continuously and to bolster that with sensible acquisitions.' Following the completion of the Neotel deal, Liquid could consider selling shares in the combined entity on a stock exchange, though the executive added: 'We haven't made a final decision on this as we just completed a funding drive.' (December 16, 2016) telegeography.com



Ukraine

Ukraine's National Commission for Communications Regulation & Informatization (NCCIR or NKRZI) has adopted draft amendments allowing the regulator to launch a tender for licensed 4G mobile frequencies in the 2600MHz range, whilst the Commission will accept comments on the plan until December 30, 2016. Under the amendments to Cabinet Decrees No. 993 and No. 200, the 4G licensing plan involves concessions issued for 15 years, incorporating 80MHz of spectrum in the bands 2510MHz-2545MHz, 2565MHz-2570MHz, 2630MHz-2665MHz

and 2685MHz-2690MHz, with measures included for compensating existing frequency holders. The NCCIR is expected to launch a 4G licensing tender before the end of 2017. Under the draft plan a nationwide 20MHz license (i.e. 25 regions [oblasts]) will cost UAH530 million (USD20.6 million). Existing 2600MHz license holder MMDS (part-owned by fixed line incumbent Ukrtelecom's parent SCM Group) has indicated its willingness to relinquish half of its spectrum in return for compensation from the state. (December 1, 2016) BizLiga



United Kingdom

The government has announced US\$ 540 million in funding to help service providers connect around 600,000 additional properties, mostly rural, to high-speed broadband lines. Earlier this month communications watchdog OFCOM released a report warning that 1.4 million homes and offices in the UK - including a quarter properties in areas designated as rural - are unable to receive broadband offering throughput higher than 10Mb/s. While this is down from 2.4 million last year, OFCOM is still pushing towards a 'universal' minimum connection speed of 10Mb/s, and the government's freshly-released funding aims to help with that. The funding doesn't come entirely in the form of government hand-outs, however: the Department for Culture, Media & Sport has described the £442 million as a 'windfall' rather than a grant, and the bulk comes from people signing up for connectivity in areas targeted by the Broadband Delivery UK programme whereby a portion of the cost is earmarked for reinvestment. In total, £292 million is being provided under the BDUK programme, while a further £150 million in savings on 44 existing roll-outs is being reinvested following what the Department claims has been 'careful contract management by the government, local authorities, and BT.' 'Our Broadband Delivery UK programme is giving families and businesses in hard-to-reach areas the fast and reliable internet connections which are increasingly at the heart of modern life,' claimed Culture Secretary Karen Bradley of the initiative. 'Strong take-up and robust value-for-money measures mean £440 million will be available for reinvestment where it matters - putting more connections in the ground. This will benefit around 600,000 extra premises and is a further sign of our commitment to build a country that works for everyone.' The funding is being provided solely to BT for expansion of its wholesale network, with £133 million already allocated to regions around the UK.

(December 22, 2016) bit-tech.net

OFCOM has published a consultation as part of its strategic review of the 410-470 MHz spectrum band (UHF Bands 1 and 2) which will help them understand whether its current approach to managing the band is able to meet the needs of current and future users. Uses for the band are diverse and complex,

and include business radio, emergency services and utilities, among others. Although there is potential for demand to grow from both new and current users, OFCOM is not proposing large-scale regulatory intervention, but instead an evolution of our current spectrum management approach. We are inviting stakeholders' views on our analysis and our policy proposals. Once confirmed, these policy proposals will create the framework for managing this spectrum for the next ten years. The closing date for responses to this consultation is February 13, 2017.

(December 20, 2016) southgatearc.org

The UK's National Infrastructure Commission (NIC) has published its final report into 5G technology, having been tasked by the government in March to consider what the country needs to do to become a world leader in its deployment. The NIC has said that the state must 'play an active role to ensure that basic services are available' in all areas, while adding that roads, railways and city centers should be made 5G ready 'as quickly as possible'. In its report the Commission makes a number of recommendations with a view to achieving these goals, including a call for the government and regulator OFCOM to develop a meaningful set of metrics that represent the coverage people actually receive, with this data to be used to determine a mobile Universal Service Obligation (USO) so that consumers can access essential services where they are needed. According to the NIC, this should be delivered 'as soon as is practical' but no later than 2025. Other notable recommendations made by the report include a call for local telecoms regulator OFCOM and the government to review the existing regulatory regime by the end of 2017 to ensure that it supports the sharing of telecoms infrastructure. Further, with the NIC saying that OFCOM and the government must 'ensure they keep pace with the rapid evolution of the mobile communications market, and that the regulatory regime is fit for purpose', ensuring that spectrum allocation and regulatory decisions support a growth model in a world where technology developments enable greater shared access and interoperability has also been identified as a priority, again by the end of 2017. As part of this, the Commission has recommended a review of how unlicensed, lightly licensed spectrum, spectrum

sharing and similar approaches can be utilized for higher frequencies to maximize access to the radio spectrum. Meanwhile, with a view to ensuring that the UK is 5G-ready the NIC has said that the country's railway network must rapidly improve connectivity, saying this would best be delivered by a trackside network. With the report suggesting a plan to this end should be provided by the government by 2017, it envisages the infrastructure being in place on key routes by 2025. In addition, the report also takes aim at mobile coverage of Britain's motorways, saying that 'networks fit for the future' in these areas should also be in place by 2025. Finally, with regards to coverage in the nation's towns and cities, the NIC has called for local authorities and Local Enterprise Partnerships (LEPs) to work with network providers to develop approaches that enable the deployment of the tens of thousands of small cells in urban centers.

(December 15, 2016) telegeography.com

Telecoms regulator OFCOM has announced plans to review the retail market for standalone landline telephone services. OFCOM noted that while it felt overall competition in the telecommunications sector remains strong, it said it was concerned that 'people who buy landline services on their own are not being served well by the market'. According to the watchdog, its analysis has shown that all of the UK's major landline providers have increased their line rental charges significantly in recent years – by between 28% and 41% in real terms – despite benefitting from an approximate 25% fall in the underlying wholesale cost of providing a landline service. The regulator said it expects to publish a consultation on the matter in early 2017. OFCOM's announcement was made within a consultation covering its separate review of the wholesale markets that underpin fixed voice services in the UK. This consultation, which closes on February 28, 2017 and aims to finalize regulation which will apply from October 1, 2017 to September 30, 2020, is examining the following markets: wholesale exchange lines, ISDN (Integrated Services Digital Network), call origination and call termination.

(December 2, 2016) telegeography.com

OFCOM has announced that it is proceeding with a formal notification to require the legal separation

of Openreach from BT, after the latter 'failed to offer voluntary proposals that address [OFCCOM's] competition concerns'. In an update outlining its current plans, OFCOM said it was 'disappointed that BT has not yet come forward with proposals that meet [its] competition concerns', adding that while some progress had been made, it did not feel this was enough. As such, the watchdog has argued that action is required, to which end it has confirmed that it is preparing to notify the European Commission (EC) of its intention to implement plans to require the legal separation of Openreach with a view to making it more independent. OFCOM's proposal will require Openreach to become a distinct company with its own Board, comprising a majority of non-executive directors, including the Chair, who are not affiliated with BT. Such a setup will guarantee Openreach greater independence to make decisions on strategic investments, while ensuring it has 'a duty to treat all of its customers equally'. The model for separation, the regulator noted, had been one of the most commented on issues in a consultation on the matter – responses to which were published and OFCOM said it had considered carefully calls for the structural separation of Openreach, which would split it and BT into two entirely separate companies under different ownership. However, arguing that structural separation would be 'the most intrusive form of regulatory intervention available', OFCOM pointed to responses to the consultation which had suggested that such a course of action 'could generate materially greater costs and risks compared to models based on legal separation'. In terms of its next steps, while OFCOM has said it remains open to further voluntary proposals from BT that might address the outstanding competition concerns, it has confirmed it is preparing a notification to the EC to require the changes to increase Openreach's independence. The British regulator noted that it has already discussed the matter with the EC, while adding that it expects to consult publicly on a submission to the Commission in the early part of 2017. Following this, it then intends to proceed quickly to submit a detailed plan to the EC and, subject to its decision, implement the reforms of Openreach. (November 29, 2016) telegeography.com



United States

The Republican appointees on the FCC have said they plan to look again at the regulator's net neutrality rule in the new year. In a letter to five industry lobby groups, Commissioners Michael O'Reilly and Ajit Pai said they hope to restore the exemption to the transparency rules for small operators, which expired earlier in December. Both commissioners opposed the FCC's Open Internet order passed in 2015, and prior to the expiry of small operator exemption, attempted to have the latter extended and expanded, to providers with less than 250,000 customers. They said they would not support any enforcement action against

small providers and will seek to change the rules when the new administration takes office. They also plan to revisit the Title II classification of broadband providers under the Open Internet decision, which was the basis for the FCC asserting authority over internet providers. When Donald Trump takes office as US President in January, he is expected to shift the balance in the FCC to the Republican side. Tom Wheeler, the FCC's current chairman appointed by Barack Obama has already said he will step down in January. (December 22, 2016) telecompaper.com

Stage Three of the Federal Communications Commission's (FCC's) 600MHz Broadcast Television Spectrum Incentive Auction ('Auction 1002') came to an abrupt end yesterday after a single round of bidding. In total, bidders offered US\$19.676 billion for TV broadcasters' airwaves in the so-called 'Forward Auction', far short of the US\$40.313 billion 'clearing cost' that was necessary to bring the proceedings to a definitive end. The total financial commitment at the end of Stage Three actually represents a decrease from Stage Two (see below), with the FCC reducing the quantity of spectrum on offer via a parallel 'Reverse Auction' with the country's broadcasters. Stage Two of Auction 1002 also finished abruptly in October, after a solitary round of bidding. Then, bidders offered a total of US\$21.520 billion for TV broadcasters' airwaves in the second 'Forward Auction', far short of the US\$54.586 billion 'clearing cost' that had been established at the time. A total of 62 companies registered to participate in the process, including mobile giants Verizon Wireless (bidding as Cellco Partnership d/b/a Verizon Wireless), AT&T Mobility (AT&T Spectrum Holdings) and T-Mobile US, while Sprint Corp opted to sit out the process. In addition, cable giant Comcast is bidding under the CC Wireless name, while satellite TV firm DISH Network is participating as ParkerB.com Wireless.

(December 6, 2016) telegeography.com

The U.S. Federal Communications Commission (FCC) has raised concerns that AT&T and Verizon's

zero-rated data programmes are in violation of net neutrality rules. The telco watchdog's wireless bureau chief Jon Wilkins outlined his arguments in separate letters to the telcos last week. In a letter addressed to Robert Quinn, AT&T's senior EVP of external and legislative affairs, Wilkins said AT&T's Sponsored Data scheme, which lets customers use participating OTT services without eating into their data allowance, "strongly favors AT&T's own video offerings while unreasonably discriminating against unaffiliated edge providers and limiting their ability to offer competing video services to AT&T's broadband subscribers on a level playing field." Wilkins said the practice harms consumers and OTT innovation. Meanwhile, his letter to Verizon took issue with FreeBee Data 360, which launched in January and offers OTT companies the opportunity to cover the cost of a consumer accessing their service, app or Website. "The Wireless Telecommunications Bureau believes that the FreeBee Data 360 offering to edge providers unaffiliated with Verizon, combined with Verizon's current practice of zero-rating its affiliated edge services for Verizon subscribers, has the potential to hinder competition and harm consumers," Wilkins said, in a letter addressed to Kathleen Grillo, Verizon SVP and deputy general counsel. Verizon has been given until December 15 to respond to Wilkins' letter, "including providing clarification if you believe that we have misunderstood relevant aspects of Verizon's offerings," he said. (December 5, 2016) totaltele.com



Zimbabwe

The latest figures from the Postal and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ) show that LTE network coverage in the country more than tripled in the twelve months to end-September 2016. Zimbabwe's two 4G LTE providers – Econet and NetOne – had just 146 4G base stations in service at the end of the third quarter

of 2015, but this had risen to 647 a year later. Econet claimed 497 of these while state-owned NetOne had 150. The country was home to 205,082 LTE users at end-September 2016, with Econet claiming the vast majority and NetOne serving only around 1,000 4G customers. Smallest player Telecel has yet to launch a 4G network. (December 22, 2016) telegeography.com



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