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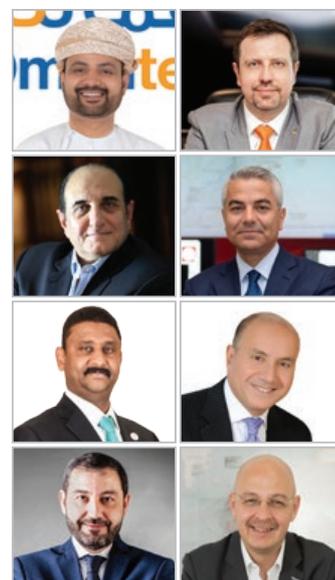
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Driving Mobile Inspiration for Digital Transformation

This is a mobile-first world; the world where digital transformation of society and life, in general, is happening before our eyes, impacting every facet and facade of individuals' lives. Nearly a third of the world's population is now using a smart phone. Combined with wearable bands, digital watches, and a plethora of other wearable devices and mobile hand-held devices, this smart connectedness is our next big reality and inspiration.

Having understood that we, more or less, have entered into the fifth-generation of mobility and that technologies, policies, regulatory measures and enablement processes -- all of which could be collectively dubbed as "5G" -- and our business models, and interaction with the network now must be realized at an utterly new plain, the industry is keenly looking into testing its level of creativity. And creativity is always inspired by something. As an example, end-user welfare all around the world, including telecom operators' potential role in addressing the wealth imbalance all around the world, could serve as a great "something" to create new possibilities for businesses and users alike.

Building viable new business cases requires much more than just speed and low-latency. In fact, it actually requires thinking mobile not as "devices" but as "choices" and "freedom" -- the ability to do whatever and whenever. This concept of mobile in relation to human abilities and choices is essential for achieving true digital transformation -- whether that transformation means unification of infrastructure at the operator end, improved regulatory processes, or new digital services that allow for seamless, integrated communication and connectivity services to be rendered on advanced platforms for end-users.

Mobile, or mobility, goes hand in hand with digital transformation. Lack of former will impede the latter.

For telecom operator CMOs and CIOs, in this context, creating mobile initiatives that are aligned with emerging technologies is essential to executing enterprise-wide digital transformation. The security of mobile data, apps and devices is essential, as organizations attempt to balance cyber-security needs with the need for efficient functionality. Therefore, we are talking about an altogether new level of complex decision-making that has to be treaded through on a day-to-day basis as operators' services and products undergo advanced marketing makeover, while they adopt the change in their long-term benefit and qualify further investment plans.

Having been focused on "digital transformation" centric discussions and stakeholder engagement activities throughout last year, we can safely say that it is a concept most easy to discuss but extremely difficult to define, as there are aspects of it that are not even physical. However, the concept of mobile, which is synonymous with the concept of digital, is much more easily to imagine and implement, as it is about creating digital experience based on what already exists.

This year, SAMENA Council will continue deep-diving into the digital transformational aspects of the telecom business and of the digital economies that concern the interest and aspirations of all stakeholders. Collectively, we would have to work in utterly different and new collaborative modes, which the public and the private sectors may not have seen yet. It is time for a new a paradigm to emerge that makes use of the public-private-people partnerships to create new possibilities in the use of mobility en route to digital transformation. 📱



Bocar A. BA
Chief Executive Officer
SAMENA Telecommunications
Council

Driving Mobile Inspiration from CEOs



Talal Said Marhoon Al Mamari

CEO

Oman Telecommunications
Company



"Oman is going through a period of rapid digital transformation, driven by increased mobility in the Sultanate. Customers are constantly consuming content and interacting with brands, and businesses are recognising the benefits of being connected all the time."

But despite Oman having one of the highest mobile penetration rates in the Gulf, people are yet to fully tap government services, mobile banking and online shopping, among other e-commerce facilities. As a result, the mobile commerce market is at a very nascent stage, but still showcases tremendous potential to be the driving force of the digital movement.

At Omantel, we constantly strive to harness this potential by offering a range of valuable services to our diverse customer base so that we can together move towards a digitally empowered Oman."



Osman Sultan

CEO

Emirates Integrated
Telecommunications Company (du)



"All over the world, mobile technology is driving profound changes in the ways we live, work, and communicate. We are in the midst of a digital transformation that has the potential to improve our lives from every angle: whether it's enhanced connectivity and communication on an individual basis, new value propositions and revenue streams in business and industry, or increased efficiency and adaptability for governments and entire nations. This transformation is happening on an immense scale, which means the opportunities it presents will be vast and multifaceted. Particularly in mobile, which offers a large degree of versatility and accessibility by nature, there are opportunities for innovation that will affect communities and individuals in tangible ways. As next-generation technologies continue to permeate cities and countries across the region, customers' needs will evolve, and operators will have to come up with the best services and solutions to fulfill them. In the digital era, this region is quickly becoming a technology hub – and that is a position that will enable us to put our best foot forward in leading the global technological transformation."



Jérôme Hénique

CEO
Orange Jordan



"Mobile Telecommunications and the internet is reshaping the world we are living in today, and this is reflected in our communities, businesses and the manner of our interaction with each other and the world. Telecommunications has really transformed our world into one global village, leveraging social interactions, thanks to communication that is instantaneous and available 24 hours and 7 days a week.

In Jordan and the MENA region and most of Asia, access to mobile communications and its growth has been exceptional. To keep pace with global developments, and stemming from our commitment to offering richer connectivity options in the country, we have introduced a new era of connectivity solutions; Next- Generation Networks (NGNs) including: Fiber-To-The-Home (FTTH), Fiber-To-The-Business (FTTB), building on this, we recently launched the latest 4G+ mobile technology in the Kingdom with speeds reaching up to 250 Mbps.

At Orange Jordan, we have been working diligently to bring about digitization to the lives of our individual and enterprise customers, and keeping them connected to the future through providing the strongest internet for mobile and home."



Tarig Hamza Zainelabdin

CEO
Sudatel



"Our presence in 4 African countries gives us an opportunity to serve around 11.7 M subscribers. They represent all a new ecosystem that can lead exponentially the new world of digitization. We do believe that the mobile is not only the future, it is the essence of everything."



Marwan Hayek
Chairman and CEO
Alfa



"Mobile has enormously impacted the society and its power has enabled us to Change Destinies within our community and beyond", says Marwan Hayek, Chairman and CEO of Alfa, Lebanon's leading mobile operator managed by Orascom TMT. "We are in the midst of a mindset revolution which Alfa is proudly leading in Lebanon and the region", he adds. "With the strong capabilities mobile technology brings to our business, there is no excuse for anyone anymore not to be innovative. Alfa is putting all its innovation capabilities at the service of the nation with the ultimate goal to make Lebanon a tech hub at the heart of the digital revolution". Hayek explains: "We are paving the way for a digitized society of equal opportunities for everyone. We have engineered a solid Tech-Innovation and Sustainability strategy which clearly defines our role: We are the enabler of the digital economy and IoT in Lebanon and the region. But our role is also to employ technology for the benefit of the society, inspire new generations to innovate, and be the trusted community partner, for everyone, anywhere and anytime". He adds: "As a leading digital service provider, we are empowering every Lebanese everywhere in Lebanon, in villages and in cities, through providing a nationwide access to the latest 4G+ technology at the highest speeds. We are enabling travelers/ customers' to roam on our LTE network at excellent speeds. 5G is a high priority on our agenda, and shall be a first for Alfa, locally and regionally. Smartphone penetration hit a record of 91 percent on our network. We are also creating the partnerships which enable us to respond to community needs through targeted offers and transform the mobile handset to an advanced tool supporting the user on all needs: let it be educational, health, economic etc...". He adds: "Our community engagement platforms and initiatives enable us to be a partner to our community. We are changing lives through "Alfa 4-Life", supporting the full integration of "People with Iron Will" in society and also empowering the youth to engage actively in turning Lebanon to where we want it to be". Hayek concludes: "Our commitment to our society, on all levels, is reflected in our adherence to the UN's 2030 Agenda for Sustainable Development. We are the Goal Keepers for Industry, Innovation and Infrastructure (SDG #9), Good Health and Well-being (SDG #3) and Reduced Inequalities (SDG#10). We are there for our country, for our customers', and for our society."



Fadi Kawar
CEO
Lebara Mobile KSA



"Today, Saudi Arabia is developing at an unprecedented pace. MVNO's are yet to catch up with the full potential the market offers. Especially within B2B and B2G collaboration, where MVNO's can be the crucial link that binds all stakeholders together and resolves indigenous yet critical market needs."



Ziad Shatara

CEO
Umniah



"The definition of being mobile is taking on new and revolutionary meaning in today's digital reality. Between the rapid development of wireless communications and the wide scope of applications leveraging on its power, customers are quickly integrating these technologies into their personal and professional lives. This radical transformation is effectively redefining the business model of modern operators as they embrace this all-digital future to offer customers a more personal and autonomous journey. Streaming, cloud computing, cloud storage, advanced security solutions and the Internet of Things are only a few examples of this potentially limitless future, all of which have the potential to create new opportunities and avenues for new revenue streams and continuous growth."



Amr Eid

CEO
GBI



"Telecom technology is changing our lives in ways we did not envision, from voice, data and video. We are always connected. GBI has influenced the way telecommunication services are being exchanged in our part of the world. From IP, managed hosting and capacity services, GBI has had an impact on the industry in the Middle East. Developing strong links with stakeholders, customers, suppliers and partners. Our solutions will bring long-term value to both the Gulf region and our global customer base. As one of the most technologically advanced networks in the world, GBI remains committed to developing its services and cater towards the increasing demand for connectivity."

MEMBERS NEWS



STC and Oracle Sign Agreement to Provide Latest Cloud Computing Services in the Kingdom

STC represented by Enterprise Unite signed the first agreement of its kind with Oracle to provide unique services to government and private sectors in the field of cloud computing, which will enable data storage at the highest levels of information security within the Kingdom through a private cloud between the two companies. STC Chief Operating Officer, Nasser Al Nasser, and Senior Vice President Middle East, Africa, Turkey and Central Asia, Oracle Abdulrahman Al Dhahiban signed the agreement. "This agreement is a unique and non-traditional partnership. It is counted to be a move for both the companies and the IT sector in the Kingdom as well," said STC Enterprise SVP, Dr. Tariq Enaya. Dr. Enaya added that "It is important to achieve the Kingdom and private sector's goal of digital transformation, in line with the objectives of the 2030 vision, which focused on the transformation of global technologies, data, and broadband

expansion. It encourages also rapid localization to the world's best standards for facilitating people's lives and providing their services automatically and easily, focused on maintaining data in cloud computing systems reliably and with modern capabilities Provide different sectors with an internal option similar to the best global experiences in this regard". Al-Dhahiban stressed the importance of the largest partnership in the field of cloud computing with the Saudi Telecom Group, noting the two companies goal is to enrich the field of information technology in the Kingdom with high security and reliability, and will provide through national capabilities, the best global experiences in the area of data storage systems and programs according to the mechanisms adopted globally, Stressing that the work on the settlement of this issue will provide a reliable internal option to benefit the management of information technology

in all the Kingdom's facilities, whether governmental or private". Talal Albakr, STC Solutions VP, presented cloud computing solutions to the attendance of IT officials from government and the private sector. He discussed the company's plan to expand cloud computing to 2020 through two data centers in Riyadh and Jeddah. Through the presence of various needs and uses of computerization within the Kingdom, so that it provides all sectors and enterprises, including small and medium enterprises, noting that this computing increases productivity and make the enterprise focused on its main field of work, and trusts that their data and programs and systems Managed through specialized entities applying global solutions, explaining that the agreement with Oracle is an event that concerns all interested specialists and technicians, which facilitate modern life with a digital orientation.

Saudi Telecom Company Begins Construction of Largest Network Operation Center in Middle East

Saudi Telecom Company (STC) announced the start of constructing the largest network operations center in the Middle East, in order to enhance the company's strategy for digital transformation, enabling digital services and enriching experience of individual and corporate customers in alignment of Kingdom's Vision 2030. The center, which will be located at



the King Abdul Aziz Telecom Complex in Al-Mursalat district of Riyadh, includes smart control and operation methods for all network components, information systems and modern data centers established by the company in different regions. On this occasion, Khaled Biyari, CEO STC Group, said: "The new national network control center is an important investment in the future of technology in our country. STC Company has prepared itself in the best way to serve the company's customers from corporate and individuals." Biyari expected the project to be completed during 2019, thanking all those who participated in the work inside and outside STC. In October, STC signed a contract with Al-Latifia Trading and Contracting Co. to establish a four-story control center, equipped with the latest information technology and high-resolution digital display systems to enhance operational standards and specifications of data centers, electronic surveillance and protection systems to ensure the safety of equipment and personnel within the building. The center will increase the efficiency of customer and business services and enhance the company's position as a regional provider of Internet, data and communications services.



Batelco, AFS Launch New Mobile Payment Solution in Bahrain

Batelco, Bahrain's leading digital services provider, and Arab Financial Services (AFS), a leading regional payment solutions provider and FinTech enabler, have launched bWallet, a new digital mobile wallet and payment solution in the kingdom. The launch event took place at the Four Seasons Hotel Bahrain Bay last night with invited VIPs, guests, Batelco Board Directors, Batelco management and AFS Board and Management present on the occasion. Batelco Bahrain CEO Mohamed Bubashait and AFS CEO B Chandrasekhar, together with officials from both Batelco and AFS, officially launched the innovative service to usher in a new era of FinTech and digital evolution in Bahrain. bWallet will revolutionize the way people shop by enhancing customers' experience through innovative ways to pay and transfer money. All mobile users, regardless of operator, can benefit from this technology, which can be downloaded from the App Store or Google Play Store. A simple registration process will allow them to enjoy a fast contactless and secure payment experience, said officials. The invitees had the opportunity to learn about the new service which was demonstrated at the launch event. Over 40 leading brands, with 300 retail outlets, have already signed up to make the service available for their customers with many more set to be onboard soon. Batelco chairman Shaikh Mohamed bin Khalifa Al Khalifa stated that the new service, in partnership with AFS, is in line with Batelco's commitment to ensure the best in class digital and FinTech solutions for the kingdom's consumers and is another step in the journey towards meeting the kingdom's 2030 vision. Batelco Bahrain CEO Mohamed Bubashait added: "Batelco has continuously embedded innovation as central to its strategy with the aim of delivering a first class customer experience. This new service, which merges our core business of mobile communications with payment solutions, will be adapted as financial technology and customers' needs continue to evolve. AFS Chairman Sael Al Waary commented: "The launch



of bWallet represents an important milestone in AFS's strategy and is a core component in fulfilling our vision of becoming the partner of choice in facilitating payments and FinTech in the region. AFS is dedicated to investing in the development of cutting-edge FinTech infrastructure and products to provide innovative solutions for our partners and their customers. We are honored to have established this landmark partnership and wholly committed to support the Kingdom of Bahrain in realizing its vision of becoming a cashless society." AFS CEO B Chandrasekhar commented: "We are pleased to partner with Batelco to introduce the latest in mobile payment solutions in Bahrain. bWallet will have unique features including dynamic QR and contactless payment methods and wallet-to-wallet transfers." As a special introductory offer, the first 10,000 customers of bWallet will receive BD3 sign-on bonus. In addition, 2 per cent cashback will be offered on all merchant payments made through the bWallet until March 31.

Batelco Super-Fast Fiber Internet Now Available at Diyar Al Muharraq

Batelco, the Kingdom's leading digital communications services provider, has launched its super-fast Fiber Internet services for residents of the prestigious master planned Diyar Al Muharraq development. This launch of Batelco's Super



fast Fiber services at Diyar Al Muharraq is part of Batelco's ongoing network expansion plans to deliver super-fast Internet services throughout Bahrain that support the initiatives of the Kingdom of Bahrain.

Batelco offers Fiber Internet choices to satisfy all needs with speeds of up to 500 Mbps over its state-of-the-art fiber network. Thanks to the amazing high speeds and reliable service, customers will be able to download movies, stream high definition videos, play online games and upload large files in seconds without experiencing any delays. Additionally, Batelco's popular TV service which delivers a Full Digital Home Solution to customers and a selection of Batelco TV packages will also be available. In addition, Batelco will now also offer 'mobile boost' to its mobile customers to improve the indoor mobile coverage within their homes. As a special launch offer, Diyar Al Muharraq residents will benefit from exclusive offers which have been designed especially and exclu-

sively for them. Batelco's fiber experience van will be available at Noor Plaza, Diyar Al Muharraq, during January and February to register customers and help them choose the best package to meet their requirements. Batelco's customers in Diyar Al Muharraq will also benefit from the extensive experience of Batelco's customer services and support, available around the clock, to make their online experience seamless and enjoyable. As Bahrain's leading digital services provider, Batelco has been investing continuously over recent years to expand their fiber network into new developments throughout the Kingdom with the service being enthusiastically received by customers seeking top quality services.



Etisalat's E-Vision Geared up for CABSAT 2018

E-Vision, a fully owned subsidiary of Etisalat, today confirmed its strong presence at CABSAT 2018 Middle East and Africa's largest broadcast digital media and satellite expo being held during 14-16 January at Dubai World Trade Center. With an extensive experience in the region in sourcing TV content for telcos, ISPs and pay TV operators in the MENA region, E-Vision is gearing up to meet business partners for potential collaboration in the field of TV channels licensing, video-on-demand acquisition, content strategy, video OTT solutions, 4K, and eHospitality at the event. Humaid Rashid Sahoo, CEO E-Vision, has expressed renewed trust to provide business partners with content acquisition expertise and the latest TV content distribution technologies. "We look forward to our participation at CABSAT giving us an opportunity to showcase our latest and innovative content solutions. This year we plan to introduce our new eJunior app, which



offers On-Demand over 1,500 hours of carefully curated content for children. The launch is part of our long term strategy to secure content and collaborate with leading OTT SVOD players in the region for customized solutions to meet video business offering to mobile subscribers. With our content sourcing capabilities, E-Vision is enabled to develop leading original TV channels such as eJunior, and e-masala, as well as original content and programs tailored to different markets". For over 17 years E-Vision has secured content for multiple Pay TV

and OTT services from major Hollywood Studios, Bollywood and the latest Arabic productions as well as leading TV channel providers from around the globe like recently BBC and Exclusive deals with Fox and MBC group. E-Vision is a pioneer and trusted content aggregator in the region, providing a comprehensive turnkey solution for content acquisition and management for IPTV platforms and multi-screen (OTT). E-Vision currently operates in UAE, KSA and Pakistan, serving over one million subscribers.



Viva Kuwait Upgrades Backhaul with 'Super Dual Band' Huawei Technology

Mobile operator Viva Kuwait, owned by Saudi Telecom Company (STC), has upgraded its backhaul infrastructure with Huawei's 'Super Dual Band' (SDB) microwave solution, the operator reported on its website. The technology was piloted for the 2017 GCC Cup to support

stadium Wi-Fi services, Viva also notes. Viva added that it is the first company in Kuwait to deploy the 'E Band' SDB solution, 'in order to expand the capability of existing traditional backhauling systems up to 20Gbps transmission speed' and to reduce the need for expensive fiber

backhaul deployment. The cellco says it will utilize SDB to increase the reliability of its 4G mobile network performance via long-distance and large-bandwidth microwave links, ensuring optimal point-to-point backhaul transmission.

Viva Bahrain to Acquire Mena Telecom

Viva Bahrain, the Kingdom's largest mobile network operator (MNO) by subscribers, has announced that it has reached an agreement with Kuwait Finance House (Bahrain) to acquire 100% of the shares of ISP Mena Telecom (Menatelecom). Commenting on the acquisition, Viva Bahrain CEO, Ulaiyan Al Wetaid said: 'The

acquisition will significantly enhance Viva's position in both the consumer broadband and enterprise markets; it will help us complement our offering by leveraging the strong capabilities of Menatelecom in the broadband segment ... The acquisition is in line with Viva's growth strategy focusing on

delivering innovative services, seamless connectivity and value-for-money. The acquisition will allow Viva to enhance key technical capabilities and foster further product and service innovation.' The transaction is expected to be completed in early-January 2018.



Zain Saudi Reports First Full-Year Profit Since Launch

Zain Saudi Arabia, a subsidiary of Kuwait-based telco Zain Group, has reported a net profit of SAR12 million (USD3 million) in the twelve months to end-December 2017, up from a net loss of SAR979 million in 2016, marking the first time in the company's history that a full-year net profit has been reported. The operator

attributed the positive result to an increase in revenues by SAR379 million, a decrease in cost of sales (by SAR133 million), a decrease in amortization as a result of a 15-year operating license extension, and lower distribution and marketing expenses (by SAR181 million). Zain Saudi generated revenues of SAR7.3

billion during the period under review, a figure which represented a 5% annual improvement on the SAR6.9 billion reported for 2016. EBITDA for the twelve-month period also increased, by 40% year-on-year, to SAR2.5 billion.



Accenture Agrees to Acquire Mackevision

Accenture (NYSE: ACN) has entered into an agreement to acquire Germany-based Mackevision, a leading global producer of 3D-enabled and immersive product content. The acquisition will add state-of-the-art visualization capabilities to Accenture Interactive's digital services portfolio – strengthening its ability to create compelling, next-generation customer experiences and industrial, extended reality applications. The acquisition is subject to customary closing conditions. Financial terms of the transaction are not being disclosed. Mackevision's creation, visualization and production services are used for online product configurators, digital and print catalogues, virtual showrooms, point-of-sale kiosks, augmented and virtual reality experiences, as well as broadcast video and feature films. Mackevision has developed a differentiated ability to leverage engineering data to construct 'digital twins' of complex physical products. By applying the latest techniques in CGI, visual effects and AR/VR, Mackevision can generate nearly any type of visual content from these twins – effectively turning engineering data into truly immersive product experiences and virtual applications. This highly-specialized approach has the potential to transform product design as well as fuel the next generation of consumer experiences. The ability to create digital imagery of the highest quality based on 'digital twins' is key to Accenture's vision of delivering a broader set of services around smart, connected products, platforms and business models to a wide

range of industries, including automotive, industrial equipment, consumer goods and retail. Founded in 1994, Mackevision has a team of more than 500 employees and is headquartered in Stuttgart, Germany, with offices in Munich and Hamburg as well as in the United States, United Kingdom, China, South Korea and Japan. Mackevision has earned international acclaim for its work on the HBO Series "Game of Thrones" – for which it was awarded an Emmy for Outstanding Visual Effects. The company's high-end creative and visual effects capability is especially relevant in the growing field of extended reality, where life-like models and environments are considered critical to creating fully-immersive experiences. "This is truly a one-of-a-kind opportunity for us," said Jamie Posnanski, global content practice lead, Accenture Interactive. "Mackevision has a deep roster of highly-relevant creative and technical talent in emergent capabilities, and operates with mature offerings on a global scale. It's rare to find this combination in the market. We are highly impressed by the quality of the work, innovation, leadership, culture and, of course, talent on the Mackevision team, and we are excited for what our combined capabilities can mean for clients." "Mackevision's capabilities will add a whole new dimension of content innovation to our portfolio of services," added Brian Whipple, head of Accenture Interactive. "The 'digital twin' concept has massive implications not only from a scaled media production and marketing standpoint, but also for our broader

vision of helping clients render the most compelling experiences possible." With clients including Audi, BMW, Fiat Chrysler, Hyundai, Jaguar, Land Rover, Mercedes-Benz, Porsche, Mackevision has achieved its most notable success in the automotive industry – where CGI-based and 'digital twin' visualization has experienced some of the earliest adoption. "Mackevision is delighted to become part of the Accenture family," said Mackevision CEO Armin Pohl. "With our more than 20 years' experience in 3D visualization, our visionary technology and our efficient Single-Source Publishing (SSP) approach, we create relevant, inspiring product and brand experiences with lasting impact. We have moved from being a content provider to providing relevant end-to-end solutions for our clients, and we're looking forward to collaborating on creating meaningful client experiences on a global scale under Accenture Interactive." Accenture is an early leader in the burgeoning AR/VR services market, having delivered consumer and enterprise experiences for clients such as BMW and Jeep over the past several years, and recently launched the Accenture Extended Reality (XR) practice. The acquisition of Mackevision will help Accenture significantly accelerate its ability to envision, create and operate XR solutions at scale for its clients and help drive the future of the XR market which, according to industry analyst firm IDC, is predicted to rise to \$162 billion by 2020.

Smartphones Losing Ground to Digital Voice Assistant Devices in Homes

Consumers who own in-home digital voice assistant devices are using their smartphones less often for entertainment and online purchasing, according to results of a new survey from Accenture. Digital voice assistant devices – powered by artificial intelligence – are stand-alone hardware devices that use voice interfaces for a range of consumer services such as playing music, turning the heat and lights on and off, and providing news, weather and sports scores. The online survey of 21,000 consumers in 19 countries – whose findings are summarized in a new Accenture report, *Time to Navigate the Super Myway: Giving Consumers Exactly What They're Looking For* – reveals that two-thirds (66 percent) of consumers who own digital voice assistants said they use their smartphones for fewer applications in the home since acquiring the devices. Nearly two-thirds (64 percent) of these owners said they use their smartphones less for entertainment, and more than half use them less for online purchasing and general information searches (58 percent and 56 percent, respectively). "Digital voice assistant devices are challenging smartphones as the central hub for all activities in the home," said David Sovie, global managing director of Accenture's High-Tech business. "These low-cost devices deliver valuable and practical benefits and are relatively easy to use, and their rapidly growing popularity is one of the most striking trends in the high-tech industry." The survey shows that ownership levels of digital voice assistant devices are projected to more than double this year, reaching 39 percent of the online population in India, 37 percent in the United States, 34 percent in Brazil, 33 percent in China, 26 percent in Germany, and 24 percent in the United Kingdom. These products are not only increasing in demand, but they are also satisfying consumers' wants and needs. Nearly two-thirds (63 percent) of respondents said they are either using or interested in using a digital voice assistant device, with the vast majority (94 percent) of current users either satisfied or very satisfied with these products. In addition to digital voice assistant devices, the survey also



explored consumer interest in augmented reality (AR) and virtual reality (VR), which the results show extend far beyond gaming to a range of more-practical needs. For example, more than two-thirds (67 percent) of respondents said they are interested in AR or VR to learn about a place they are visiting and to learn new skills or techniques. Other areas of interest include visualizing how clothes might fit (cited by 61 percent of respondents) and experiencing a sporting event live (52 percent).

Methodology

Between October and November 2017, Harris Interactive, on behalf of Accenture, conducted an online survey of 21,000 consumers in 19 countries: Australia, Brazil, Canada, China, France, Germany, India, the Netherlands, Italy, Japan, Mexico, Poland, Singapore, South Africa, Spain, Sweden, United Arab Emirates, the United Kingdom and the United States. The sample in each country was representative of the online population. Ages of respondents ranged from 14 to over 55. The survey and related data modelling quantify consumer perceptions of digital devices, content and services, purchasing patterns, preference and trust in service providers, and the future of their connected lifestyles.



Analysys Mason and Huawei Publish Research Study Highlighting How Digitalization is Reshaping Operations

A recently released Analysys Mason study in collaboration with Huawei entitled, 'Digitalization reshaping operations: a new digital operational model for the future' has illustrated how digitalization is fundamentally reshaping the way businesses are being operated, and how in order to remain competitive a new operational model for the future operational environment is necessary. Communications Service Providers (CSPs) are embarking on their own digital transformation journey to increase service agility and operational efficiency through infrastructure evolution and operations transformation. In developing

the study, Analysys Mason worked with Huawei to provide insights into how software is changing the world. The study exemplifies how the success of CSPs operations transformation hinges on a new software-driven operations model that is already driving the success of digital businesses across different industries. The new operational model must support high levels of process automation to the point where predictive autonomous operations becomes a reality, enabling CSPs to automatically pre-empt and tackle service quality issues before they occur. This study explains several key areas that cover the

radical overhaul of the operations model; why CSPs must adopt a multi-pronged transformative approach; the need for continuous innovation, ecosystems and lean operations; and the strategic journey to achieve digital operation transformation. Based on extensive research across diverse industries, the paper explains how the current operations model severely constrains CSPs abilities to achieve the benefits of digital transformation and that to remain relevant in the digital era, the Telecoms industry must adopt a software-driven operations approach that has been instrumental in the success of major digital companies

such as Uber, Google and GE. Anil Rao, Principal Analyst at Analysys Mason and the author of the study, said, "The telecommunications industry is at a



major tipping point; as operators embark on important digital transformation initiatives, with NFV/SDN, IoT and 5G still to come, the prevalent operational model and economics severely constrains them to achieve the benefits of these strategic transformation initiatives. CSPs need a future proof software driven operations model that can not only support today's physical networks but also adapt as the infrastructure transitions to hybrid and virtual networks. "The new operations model must be underpinned by highly automated operational processes, enabled by analytics powered operations software platform and supported by an operations workforce with the software skills to continuously enhance operational efficiency by developing automation as part of their daily duties," continued Anil Rao. The study also illustrates innovative ways for the CSPs to transform, whether they embark on the journey alone through a 'Do It Yourself' (DIY) approach or establish a partnership depending on the

level of maturity of the vendor offer and the level of control and ownership that the CSP wants to retain in-house. The paper includes a description of the various engagement options such as consultative led operations-as-a-service which relies on the partner to deliver the operations, based on agreed service level agreements using the partners' operations platform, supplemented with advisory and implementation services to transition to software driven operations. Analysys Mason concludes the study with key recommendations for CSPs including how they should learn from other industries; implement automated operations, and the best partnership model for the transformation journey. The study also provides insightful recommendations for vendors on developing solutions for software-driven operations, offering innovative engagement models and how to demonstrate a robust vision of a software-driven operation.



Arabsat Launches Expand

Arabsat Broadband Services have launched Arabsat Expand, a satellite broadband service powered by Forsway's unique Hybrid Router technology. The service was designed and implemented by satellite services specialist SatConsultant for Arabsat Broadband Services. "Access to the Internet is today's number one enabler of economic mobility," said Wael Mohammed AlButi, VP & CCO of Arabsat. "You can learn to repair your car from Youtube, about farming from the Cornell Cooperative Extension, and programming from Khan Academy. We all want to change the world for the better and bringing affordable Internet access to developing markets will do just that." The deal will see Forsway's innovative hybrid router, ODIN, at a total kit cost of around US\$100 per station, enabling the satellite operator to launch affordable new broadband Internet services for as little as US\$5 per month, helping bridge the digital divide to new customers in remote rural communities, as well as providing new, more reliable, and lower-tariff services to urban users. "This is the first service offered by Arabsat's newly

created business unit for Broadband Services," said Christof Kern, General Manager Arabsat Broadband Services. "We have found the Forsway technology reliable and useful for providing these services in areas where the performance of the Internet is questionable due to under-performing 2G and 3G networks. Anyone who is suffering from a low bandwidth service today will be able to increase their speeds with this new service; it is literally bringing the entrance barrier to a price level everyone will be able to afford. We will offer competitive entrance models to empower businesses and end-users alike throughout Africa and Middle East." Arabsat Broadband Services will deliver Arabsat Expand through previously unused bandwidth aboard its satellites. This will increase capacity, thereby reducing congestion to deliver an excellent customer experience with a faster Internet download speed and at reduced costs. ODIN™ allows any type of narrow-band return channel to be linked to the high-throughput KU/KA-Band satellite bandwidth on Arabsat's BADR-7 satellite in remote locations

across almost the whole of the Middle East and Africa. The Forsway solution is a unique fit for the problems of satellite broadband, especially in urban areas. "While bandwidth prices tend to dominate discussions of the fitness of satellite as a mass-market service, hardware costs, ease of installation, and licensing requirements are all huge obstacles to overcome," said Tobias Forsell, Managing Director of Forsway. "A complete kit with our ODIN™ router can be had for less than \$100. It can be installed by anyone who can point a satellite TV dish, with no interaction from a network operations center. And, because there's no satellite transmitter, there's no need for a VSAT transmit license." Up to 10 Gigabit of Internet connectivity will then be routed through Arabsat's BADR-7 satellite to support the new services from these locations. Both KA and KU bands can be deployed for this service, making use of the satellite's full KA/KU footprint over the whole of the MEA region, as well as parts of Southern Europe and Central Asia. "This project flips the use of satellite on its head," said Travis Mooney, Principal

Consultant of SatConsultant. "Satellite is now ready to compete against terrestrial connectivity in urban areas, and not just in areas unserved by fiber and wireless

connections. And as long as the industry wakes up to the availability of this new business model, the technology and the approach, the days when satellite

bandwidth and CPE were way too expensive for users of all kinds are over."



Cisco Helps Cable Operators Compete with FTTH Players

Cisco has launched a new consumption-based DOCSIS licensing plan to help cable operators better compete with FTTH providers in the high-speed broadband market. The vendor's new Infinite Broadband unlocked (IBU) licensing program for its Cisco Converged Broadband Router (cBR-8) platform will enable cable operators to deliver high-speed broadband, video and voice services. With the offering, Cisco aims to improve the economics of offering multi-gigabit services by using distributed access cable architectures employing Remote PHY (RPHY) technology. RPHY

uses existing IP technologies such as Ethernet PON, GPON and metro Ethernet to deploy DOCSIS over digital fiber to enable two-way services over cable. It is designed to bridge the gap between DOCSIS and digital fiber. Traditional licensing models for converged cable access platform devices require cable operators to purchase large numbers of new bandwidth licenses for every service group. By contrast, Cisco's IBU will give cable operators the capability to provision all of the capacity of their CCAP platforms without restrictions or upfront licensing expense. Licensing is aligned to the

number of subscribers cross the network. Cisco has separately used the recent CES trade show in Las Vegas to demonstrate its Cisco Infinite Video Platform, which is designed to support loud-powered, app-driven video services such as cloud DVR and OTT video. The platform allows service providers to use a virtual cloud stack to deliver high quality, secured video experiences to all consumer devices. The vendor revealed that more than 20 global service providers are delivering or beta testing programs for cloud DVR services using the platform.

Cisco Appoints Hani Raad as General Manager for the Middle East's West Region



Cisco has announced the appointment of Hani Raad as General Manager for its West Region in the Middle East. In his new role, Hani Raad will focus on leading Cisco's digital transformation initiatives in Kuwait, Bahrain, Qatar, the Levant and Iraq, and will work closely with its partner ecosystem to support government and private sector customers on their digitization journeys, while helping them drive desired business outcomes. "As part of the transition towards knowledge-

driven, service-led economies, countries across the region have made digitization an urgent imperative with the aim of translating the digital opportunity into tangible socioeconomic benefits," said David Meads, Vice President – Middle East & Africa, Cisco. "Cisco, along with our ecosystem of partners, is working closely with governments and enterprises to develop their digital roadmaps to position them for long-term prosperity in the digital age." According to McKinsey Global Institute's Industry Digitization Index, several countries in the Middle East are making significant strides in the digitization surge. Bahrain, for example, has been adopting progressive digitization policies supported by widespread Internet and smartphone penetration and increased usage of social media. "The appointment of Hani as General Manager for the West Region comes at a time when many governments across the region have drawn out national transformation programs in which maximizing their digital economic output is given high priority," added Meads. "Hani is an experienced executive who brings a great deal of energy and commitment to this role, and

I am confident that his market knowledge and depth of expertise will support our efforts as Cisco continues to play a leading role in developing the region's digital ecosystem." As General Manager for the Middle East's West Region, Hani will be responsible for overseeing Cisco's business operations and driving its growth plans across his markets. In this expanded role, he will leverage Cisco's growing portfolio of solutions and work to strengthen collaboration with governments and Cisco's partner network to ensure that Cisco remains the region's partner of choice for digitization. "I look forward to my new role and am excited about the tremendous opportunities that are present across the countries I oversee," said Hani Raad, General Manager - West Region, Cisco Middle East. "As a company at the forefront of digital business transformation with the broadest technology solutions, Cisco is well positioned to help accelerate the digital transformation of our customers in a meaningful way. By leveraging our global experience and industry-leading innovations we are able to help the region's organizations become future-ready as

they transition towards the digital era." Having joined Cisco over 11 years ago, Hani has a diverse 24-year background of regional ICT sector experience coupled with cross-industry exposure. He has held various executive positions in emerging markets, where he was responsible for building strategic sales strategies whilst driving the message on the need to prioritize the digital agenda to support emerging country innovation, prosperity and social inclusion. Countries in the West Region have already taken strides in

driving economic growth by stimulating innovation and knowledge spill overs. Kuwait has been one of the top movers in WEF's Networked Readiness Index, with substantial improvements in ICT usage and impact, largely driven by high business and individual adoption levels and aligned with its New Kuwait 2035 Vision's plan for transforming itself into a digital society and economy. Meanwhile, Bahrain continues to lead the region in global rankings for e-government development (United Nations eGovernment Survey)

and ICT use, and is in the world's top 30 for networked readiness (World Economic Forum). Gartner estimates that Middle East governments will spend \$11.6 billion on IT products and services in 2017. In particular, the growing adoption and expansion of smart cities, e-services, artificial intelligence and automation bodes well for their drive to reduce costs and strengthen competitiveness, particularly in the region's large energy and construction sectors, where an estimated 40% of tasks can be automated.



DE-CIX and BCIX Establish Strategic Partnership

The world's leading operator of Internet Exchanges, DE-CIX, and Berlin's leading Internet Exchange (IX) BCIX have established a strategic partnership, effective immediately. This partnership has the objective of directly connecting the two Internet Exchanges and offering the products of each operator in the locations Berlin and Frankfurt. The Berlin location will be marketed as 'DE-CIX powered by BCIX'. "We are delighted not only to have found an ideal partner in BCIX, but also to be able to connect into an excellent interconnection ecosystem in the German capital. Through this partnership, we are creating optimal synergies for both companies and our respective customers – given that we can offer all products in both locations. There is no need for additional contracts, as DE-CIX and BCIX can each single-handedly deliver everything. As a result, customers in Frankfurt and Berlin have access to a 'One-Stop-Shop' for our complete service portfolio, including products like GlobePEER, DirectCLOUD, and MetroVLAN," said Dr. Thomas King, Chief Innovation Officer at DE-CIX, speaking about the newly-established partnership. "There has been a positive cooperative environment between DE-CIX and BCIX



for years now. Over the years, we have all gone to great lengths for Germany as an Internet location. Given that the virtual path between Frankfurt and Berlin is interesting for many of our peering partners, we decided to make this connection as easy as possible for our peers," Christian Kröger, CEO of BCIX Management GmbH, commented on the strategic partnership.

Mumbai-IX Powered by DE-CIX Establishes Presence at Netmagic DC5

Mumbai-IX, powered by DE-CIX, expands its footprint in Mumbai to Netmagic DC5 in the Chandivali neighborhood. Mumbai-IX, the leading Internet Exchange (IX) in the Indian market, will make services available at the facility, starting in February 2018. This is the second point-of-presence of Mumbai-IX in the metro market. The carrier and data center-neutral IX serves around 90 providers and is the only IX in India which carries OIX-1 certification from the Open-IX association; Open-IX is a US based non-profit association that has developed strong standards for Internet Exchanges. Mumbai-IX connects all kinds of Internet providers including Broadband Providers, Content Delivery Networks, and Cloud

Companies. This direct interconnection creates a better Internet experience for the end user, while providers get control over their connectivity and more cost efficient production of Internet connectivity. Mumbai-IX is already a vital part of the Indian Internet infrastructure. An expansion to additional markets will be announced shortly. "Mumbai-IX is proud to establish a presence in Netmagic's flagship data center. This will be one of our key deployments in this market and allows both our big global customers and regional networks to establish settlement-free interconnection with each other. The NTT group is a trusted partner for DE-CIX and we are happy that, in addition to the partnership we have

with the NTT data center "eShelter" in Frankfurt (Germany), we now are able to expand this to Mumbai", says Ivo Ivanov, Board Member of Mumbai-IX operating company DE-CIX Interwire India. "We are extremely delighted to host Mumbai-IX at our datacenter (DC 5) in Mumbai. This enables us to boost up the Indian digital infrastructure market with our carrier-neutral state-of-the-art data centers and distributed approach," says Sharad Sanghi, MD & CEO of Netmagic (An NTT Communications Company). This core node of Mumbai-IX will provide premium IXP services, backed by industry-leading Service Level Agreements. Soon the IXP will launch in additional key markets in India.



du and Abu Dhabi Media Announce Launch of New TV Channel

du has announced that it has partnered with Abu Dhabi Media (ADM) and launched a new television channel - NatGeo Kids Abu Dhabi. This television channel is especially designed for children and will provide a variety of educational programs, going beyond entertainment and cartoons. du is supporting this project with their largest Direct-to-Home (DTH) delivery service platform, which enables ADM to broadcast this channel both in Standard Definition (SD) and also High Definition (HD) formats. The telco made the announcement at CABSAT 2018, which is currently taking place from January 14-16 at the Dubai World Trade Center. "Through this partnership, we are providing a best-in-class viewership experience to our du home service customers, adding life to life. As one of the largest DTH delivery service platforms in the region, we are enhancing the quality of experience for Nat Geo Kids Abu Dhabi viewers, using our extensive expertise in broadcasting services," said Hany Aly, Executive Vice President of Enterprise Business, du. He also added: "We are pleased to support this project, and we look forward to helping ADM bring their vision to life. This project in in-line with our strategy for growth and development and showcases our commitment to collaborate with a variety of partners to enhance the quality of their experience for their end-users." Commenting on the development, Ahmad Al Menhali, Director of Technology and Broadcast Services, Abu Dhabi Media, said: "When it comes to bringing our masterpiece content to regional and international audiences, it's important that it arrives at the right place and the right time, hence, we at ADM selected du as an uplink provider partner that we trust its efficient distribution solutions over satellite platforms." Now



in its 24th year, CABSAT is the largest broadcast and satellite communications event in the region and serves as a global platform for both regional and international carriers active within the Middle East market. Over 15,000 industry leaders are expected to attend the event, which will encompass exhibition halls, C-Level conferences and networking opportunities for all attendees. During the event, the telco will also demonstrate its managed broadcast services, and its integrated suite of satellite, fiber networks, media asset management and over-the-top (OTT) solutions for high-quality management and distribution of content. The provision of such services is enabled by du's world-class Teleport in Jebel Ali, Dubai, for which it was lauded with a Tier 3 certification under the World Teleport Association's (WTA) Teleport Certification Program, the only teleport in the Middle East region to receive this prestigious certification.



Eutelsat and China Unicom Join Forces to Provide Satellite Communication Services



On the occasion of French President Emmanuel Macron's state visit to China, Eutelsat Communications (Euronext Paris: ETL) has signed a Memorandum of Understanding with China United Network Communications Co., Ltd. (China Unicom) that is aimed at addressing the fast-growing satellite communications market in Asia-Pacific in the framework of the "Belt and Road" initiative. The MoU, which was signed on 9 January, by Rodolphe Belmer, CEO of Eutelsat and Xiaochu Wang, Chairman of China Unicom, aims in particular to leverage resources on the EUTELSAT 172B satellite to enhance inflight connectivity services across an area stretching from the West coast of North America to Asia, and down to Australia. Cooperation to further develop satellite communication services across the globe is also under consideration. Commenting on the cooperation agreement, Rodolphe Belmer said: "China Unicom is an ideal partner for promoting satellite communications in Belt and Road regions. This agreement builds on the cooperation that started in 2008, when Eutelsat provided satellite transmission services to

China Unicom during the Beijing Olympic Games. This cooperation also highlights the quality and reach of Eutelsat's in-orbit resources, in particular at the 172° East orbital position. This reinforced partnership will allow both companies to leverage on their own strengths in order to address future opportunities in the connectivity markets."



Huawei Takes the Lead in Creating a Converged Ecosystem of Partners to Keep Cities Safe

By 2050 more than nine billion people will inhabit the earth, over half of whom will live in cities. Challenges such as overcrowding, terrorism, transport and utilities infrastructure and many others will require solutions localized to each city's priorities. At Intersec 2018 in Dubai, Huawei, the leading global ICT solutions provider, announced new partnerships with ICT players in the Middle East to deliver tailored public safety solutions that cater to specific industry needs in order to meet the demands of increased urbanization in the face of smart city transformation. Bringing together extremely high-quality video imaging, intelligent analytics software and a unifying cloud platform to create solutions for different vertical scenarios, Huawei unveiled its end-to-end Safe Campus solution, which empowers local authorities to better protect their people. The new solution is built on a cloud-based ecosystem that brings together a number of partners, working collaboratively to support the safety of citizens. Huawei works with regional systems integrator partner Visiontech and global technology partners Hexagon, SAP; iOmniscient for AI-based video analytics; Ipsotek and Vi Dimensions for smart video surveillance; Milestone for video management software; Vidsys for its Converged Security and Information Management (CSIM) software platform; and Zenith for number plate recognition technology. Safe Campus is designed to be deployed in buildings, office spaces, stadiums, schools, hotels, and many more scenarios to assist in incident prevention, emergency response, and evidence collection. The offering comprises of a variety of hardware, AI algorithms, video cloud infrastructure and scenario-based options for mosques, schools, transportations facilities and more. Hazem Bazan, Vice President of Channels & Commercial Sales for Huawei Enterprise, Middle East said, "Huawei believes that governments, private organizations and citizens need to work hand in hand to make their cities safer. As an enabler in the ongoing digital



transformation in the Middle East, we are doing our part to empower our partners to support local government authorities in solving the unique security problems cities face. In line with our strategy of building a collaborative ecosystem, we bring together the smartest minds to create and deploy the most intelligent networks and technologies to improve the safety and security of people." Huawei and its partners also conducted a workshop at Intersec on the latest video cloud and intelligent video surveillance technologies and how they are simplifying the process of the prevention and investigation of crimes. In a keynote address at the Intersec ME Security Conference, Qu Changzhi, Director of Enterprise Cloud Communication Solution, Huawei Middle East, shared how the video cloud is redefining the efficiency, clarity and usefulness of surveillance footage and making a huge impact on the speed of threat detection and the success rate of crime solving. Huawei's Safe City solutions currently serve more than 800 million people in 200 cities across 80 countries and regions in Europe, Africa, and Asia-Pacific.

Huawei CloudFabric to Build Flexible, Intelligent Private Cloud Resource Pool for China Unicom

Huawei has partnered with China Unicom to deploy that company's first private cloud resource pool based on Huawei's CloudFabric solution. The move marks a significant step for China Unicom in enabling its business transformation in the cloud era. The development of cloud computing technologies and services has enabled China Unicom to expand its businesses. Traditional data centers are no longer aligned with larger numbers of servers and the requirements for quick provisioning of new services. In response to increasingly complex business demands, China Unicom has joined forces with Huawei to build an intelligent and simplified private cloud resource

pool using the CloudFabric solution. The private cloud resource pool, built exclusively by Huawei, encompasses an extensive data center network resource pool with Virtual Extensible LAN (VXLAN) technology to increase the number of servers from 1,000 to over 5,000 and raise network resource utilization by 90%. In addition, Huawei used SDN controllers to facilitate automatic network configuration, significantly shortening the new service provisioning cycle from months to days. Operating efficiency also improved by more than 50%. "Huawei is dedicated to innovation and research aimed at enabling Carriers' Cloud Transformation," said Wang Lei,

general manager of Huawei's Data Centre Network Domain. "The CloudFabric system deployed by Huawei and China Unicom simplifies service deployment and O&M and enhances flexibility. As a leader in the ICT industry, Huawei's cooperation with China Unicom signifies a new phase of our joint innovation in the digital transformation era." Huawei's CloudFabric solution has now been deployed at more than 1,200 data centers in over 120 countries. By building agile, open, and secure cloud data centers for customers, Huawei is committed to helping operators and enterprises gain a competitive edge in the cloud service market.

Huawei Sees 15% Growth in Revenues to \$92.08 Billion

Huawei expects total revenues for 2017 to reach \$92.08 billion (600 billion yuan), a 15% increase from 2016, according to the company's rotating CEO Ken Hu. In his New Year's message, Hu praised the company's continued expansion, but also challenged the company to accelerate growth. "Huawei's own success depends on two critical factors: First, strategically speaking, we have to steer ourselves in the right general direction. We can't be overly precise; we may need to adjust course when uncertainties come our way. Second, we need to ensure the ongoing vitality of our organization, which is growing larger by the day. These are both formidable tasks. We must have strategic confidence in ourselves, and move forward with resolve," he said. A 15% increase in revenues would represent the

slowest growth in 4 years for Huawei. Hu said that the company would look to reignite that growth rate by focusing its activities on the Internet of Things (IoT) and artificial intelligence (AI). To bring about a fully connected world, we have to take the lead in connecting all people and things, and continue to build on our existing strengths in this domain. To enable a future world where all things can sense their environment, we will focus on building and consolidating our strengths in connectivity, edge computing, and distributed computing. And finally, there is intelligence itself. Bringing intelligence to all things relies on the convergence of operational technology (OT) and information technology (IT). Here, our sweet spot is cloud computing, big data, and AI platforms, as well as on-device AI.

These technologies will power intelligent telecom networks, enable industrial intelligence, and help us optimize our own internal management processes," he said. Hu also hinted that the company would be willing to delegate more responsibility to its regional centers, to make it more agile and nimble. "To adapt to a more complex business structure, we will gradually establish a decentralized operations model in which centralized governance and individual business unit governance can co-exist. Responsibilities and authority will be clearly defined, operations will be more efficient, and oversight more effective. This will allow our business units to grow in the manner they see fit, while operating under the auspices of a shared platform and a shared system of values," he said.

Huawei Showcases Role of ICT in Driving Digital Transformation

Huawei, a leading global ICT solutions provider, kicked off Huawei Day KSA 2017 on Tuesday at the Four Seasons Hotel in Riyadh. Themed "Leading new ICT, The Road to Digital Transformation," the event showcased the role ICT is playing in driving digital transformation and building sustainable knowledge-based economies. Developing digital strategies has become a core priority for countries in the region, as governments and enterprises face overwhelming challenges in adapting to our changing world. Increasingly, business models are driven by digital innovation, where "New ICT" is the key driving force. Huawei sees digitalization as a strategic pillar of the Kingdom's Vision 2030. The event, which brought together more than 1,200 IT professionals in the Kingdom, highlighted how digitalization is transforming both business models and personal lifestyles. These innovations include not only new technologies and platforms, but also a new ecosystem of organizations and enterprises working in collaboration to drive forward digitalization. As a leading global "New ICT" infrastructure provider, Huawei actively embraces these changes and works with partners to explore the road to digital transformation to accelerate the success of local businesses. The event showcased how Huawei's collaborative platforms are driving ground-breaking innovations across various sectors.



Huawei Day KSA 2017 presented the latest trends in business and technology. Participants were shown a full suite of industry-leading products and solutions showcasing Cloud, Big Data, IoT, and Software-Defined Networking (SDN), as well as innovative applications of the technologies in Smart City, Public Safety, Oil & Gas, Utility, Finance, and other industries. All these technologies and solutions will enable the private and public sectors in Saudi Arabia to succeed in their digital transformation and align with Vision 2030. At this event, Huawei alongside its partners, business experts and ICT leaders, focused on the benefits of digitalization, and how new ICT will be the driving force in the digital transformation agendas of countries in the region. "In line with Saudi's Vision 2030 and Huawei's commitment to enable and assist governments in their digital transformation agendas, Huawei

will provide a platform for collaboration and knowledge-sharing that will promote technology innovation and growth in various industries. We are working with STC in Saudi Arabia to deliver new ICT solutions in support of various industrials, and we are keen to further work with partners to accelerate the digital transformation," said Dennis Zhang, CEO of Huawei Tech Investment Saudi Arabia. Live demos, conference tracks and discussions brought to light how Huawei's latest technology innovations are contributing to building sustainable, smart cities of the future. Huawei global executives will deliver keynote addresses on agile networking, cloud computing and their vision of a digitalized KSA. Huawei Day KSA 2017 reinforces the company's commitment to customers and partners across the Kingdom to accelerate digital transformation and build a sustainable knowledge-based economy.

Huawei to Introduce Safe Campus Solution at InterSec 2018

Huawei, the leading global ICT solutions provider, will introduce its Safe Campus suite of solutions at InterSec 2018, which is aimed at enhancing public safety innovation in the region. The Safe Campus solution will be brought to life through four different applications – a school, hotel, airport and mosque – at the Huawei booth, located at Sheikh Saeed Hall 2, Booth G11 in Dubai International Convention and Exhibition Centre, Trade Center Arena between January 21-23. As a key enabler of the Middle East's ongoing digital transformation, Huawei has partnered with several civil authorities in the region to improve the effectiveness and efficiency of law enforcement, and help to ensure a safe environment for the public. Safe Campus is an end-to-end ICT solution that may be deployed in buildings, office spaces, stadiums, schools, hotels, and many more scenarios to assist in incident prevention, emergency response, and evidence collection. In order to strongly support all Middle East customers by best compatible solutions

and ICT services and provide the best services and platforms for local & global partners, Huawei built the OpenLab in Dubai, which combines Innovation Center, Experience Center, Partner Develop Center and Verification Center in one lab. Currently, Huawei Middle East OpenLab has initiated solution development with more than 80 partners such as SAPYITU, Zenith, with the goal of developing customer-centric industry solutions, providing a place for dynamic interaction and communication among Huawei and its clients and partners. On day two of InterSec, experts from Huawei and its partners will conduct a workshop on the latest video cloud and intelligent video surveillance technologies – two key components of the Safe Campus solution. The workshop will explain how each function is simplifying the process of prevention and investigation of crimes. Hazem Bazan, Vice President of Channels & Commercial Sales for Huawei Enterprise, Middle East said, "Almost every day, we see new security threats

emerging that affect the safety and security of citizens. As part of an effective eco-system that Huawei adopts, together with its strategic partnerships utilizing new technology developments that can be leveraged to create converged, open, one-stop public safety models. Huawei believes the industry must work collaboratively to keep pace with social and technological developments and establish a public safety system that protects citizens through the seamless interaction between authorities and citizens." Huawei Safe Campus is built on four key pillars: Artificial Intelligence-based Algorithms, Video Cloud, HD Camera Smart Acquisition, and tailored Safe Campus for Different Scenarios such as Safe School, Safe Hospitality, Safe Transportation and Safe Mosque. Working with partners in the countries in which it operates, Huawei is committed to building the tech ecosystem, offering platforms that can be integrated with other public safety systems to achieve more effective information sharing and collaboration.

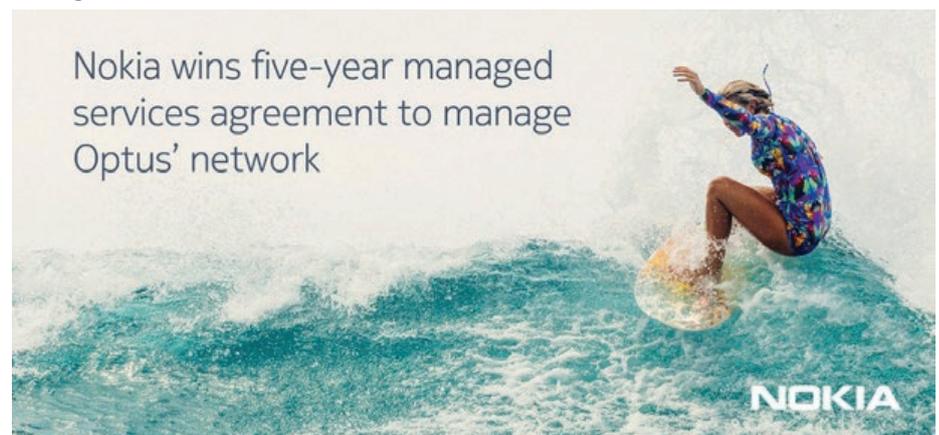


Nokia Wins Five-Year Managed Services Agreement to Manage Optus' Network

Nokia and Optus have signed a five-year agreement under which Nokia will manage and maintain key components of Optus' network infrastructure, operations and field maintenance. As part of the contract, Nokia and Optus will develop a Network Operations Centre (NOC), building on global best practices and leveraging local talent to deliver higher performance networks. Consumers are increasingly demanding faster networks and seamless connectivity, and operators need to keep pace with these demands without disrupting ongoing operations. To deliver on these growing needs while enhancing its services and ensuring operations efficiency, Optus will tap Nokia's Global Delivery Model to streamline its network operations. Nokia will also leverage its extensive global services expertise to help Optus bundle, standardize and automate its processes. Optus will benefit from reduced operational complexity. Nokia will also work with Optus to review its network structure and operations periodically to

ensure Optus' competitive advantage and ability to respond to customers' evolving needs. Nokia will provide network operations and software services, and deploy robotics, artificial intelligence and extreme automation to help Optus standardize and scale its operations, while Nokia Field Services will manage all components of work associated with mobile base station equipment and facilities. Friedrich Trawoeger, head of Managed Services at Nokia, said: "We

are pleased to work with Optus to help them use automation and other network management tools to further enhance the customer experience, operational capability and quality. This initiative is in keeping with Optus' vision to transform into a mobile-led, multimedia organization. We are leveraging the benefits of our unique Global Delivery Model, which brings together global expertise with local insights, to fully meet the needs of our customers."



Nokia Cloud-Native Packet Core Solution Selected by Telia Company to Deliver Enhanced Mobile Broadband and Manage Mobile Network Data Demand

Telia Company has chosen Nokia's cloud packet core solution to profitably deliver enhanced mobile broadband, and to provide the massively scalable platform required as part of Telia's Next Generation Core. Nokia's AirGile cloud-native design enables Telia to benefit from a full cloud architecture, allowing it to streamline engineering and operations to run on a common infrastructure across all six countries in which it operates. This will contribute to Telia's ambition for competitive operations, lowering the cost of introducing and operating data services, substantially accelerating time-to-market for differentiated services and expanding business productivity. As a next step towards harmonization for a more efficient packet core network, Telia Company will evolve their physical common multi-country evolved packet core to a common cloud native solution on a shared cloud infrastructure. Nokia's industry leading and field-proven

cloud-native packet core, including its Cloud Mobility Manager and Cloud Mobile Gateway is a key enabler in this transformation. Nokia will begin the deployment of Telia's new core network in multiple data center locations across the company's operations. As part of its AirGile cloud-native core portfolio, Nokia's packet core design provides the reliability, scalability, flexibility and performance Telia needs to meet the networking requirements and economics for a diverse and demanding range of digital services and applications for consumers and enterprises. The Nokia solution anchors multi-technology access across wireless licensed, shared, unlicensed spectrum and fixed network technologies, and delivers automated cloud networking with dynamic lifecycle management capabilities. These capabilities will help Telia improve service delivery, agility and operational efficiency for its mobile customers. Sri

Reddy, senior vice-president of Nokia's IP and Optical business, said: "There is tremendous potential with the continued growth of mobile broadband, and with new services and 5G in the near future. To take advantage of these opportunities, Telia must deploy a new generation cloud-native packet core that is able to connect to a greater variety of devices and deliver a broader range of services over multiple access technologies. Nokia uniquely combines field-proven cloud-native software, cloud technologies and mobile and IP routing expertise to help Telia speed up service delivery, deliver greater scale and capacity and operate its network more efficiently. Plus, because our cloud packet core is built on our robust, field proven router software (SROS), it provides Telia with a solid foundational framework for the evolution of its 4G and the path forward to 5G."

Nokia, T-Mobile US and Intel Collaborate to Bring T-Mobile's First Commercial Hardware Based 5G 28 GHz Cell on Air

Norway's Telenor Group has selected Finnish vendor Nokia as its sole supplier for the replacement of its legacy optical backbone network, the latter has announced. In a press release confirming the plan, Nokia claimed that Telenor's new optical core network will provide much-needed bandwidth capacity in Norway and Sweden as Telenor Group looks to increase bandwidth capacity by replacing its current optical core network connecting major centers across the two countries. According to Nokia, the next generation optical network will feature the vendor's state-of-the-art coherent optical transmission technology. Built on Nokia's solutions with advanced wavelength routing (CDC-F), it will reportedly allow for greater flexibility and dynamic network management and automation. Further, the network offers an SDN-ready platform that will provide Telenor with a more efficient way to



automate, optimize and assure network services. Commenting on the matter, Nicolas Almendro, head of Europe & MEA Optics Business Development at Nokia, said: 'We are excited to be chosen for this multi-year turnkey project. This highly

resilient and secure optical backbone will play a critical role in deploying next-generation services to Telenor customers in Norway and Sweden, and help the customer prepare for the demands of 5G.'

Nokia Contracts Telenor for Optical Backbone Network Replacement in Norway and Sweden

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Nokia to Supply 5G Equipment to NTT DOCOMO in Support of Launch of Commercial 5G Service

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"The agreement with NTT DOCOMO is a major milestone in bringing 5G to commercial reality. Together we have worked hard in recent months to commence preparations for NTT DOCOMO's eventual launch of its operational 5G service by 2020, which we have set in motion today."

Marc Rouanne
President of Mobile Networks

are excited to be chosen for this multi-year turnkey project. This highly resilient and secure optical backbone will play a critical role in deploying next-generation services to Telenor customers in Norway and Sweden, and help the customer prepare for the demands of 5G.'



OneWeb to Fully Deploy Multi-Gigabit Global Satellite Network by 2021

OneWeb received permission from the FCC in June to deploy a global network of 720 low-Earth orbit satellites using the Ka (20/30 GHz) and Ku (11/14 GHz) frequency bands. Earlier in 2017, OneWeb started building a satellite manufacturing factory which will be capable of producing 15 satellites per week. Small, low-cost user terminals will talk to the satellites in the sky, and emit LTE, 3G and WiFi to the surrounding areas, providing high-speed access for everyone. OneWeb will act as

an extension of existing networks, not a replacement. Much of the world is already covered by ISPs and mobile operators' high capacity networks. Our system is designed to extend these networks into rural areas and create affordable connectivity for all. Our small cell terminals and core network will be fully 3GPP compatible, so partner operators will be able to use our infrastructure with their current customers, devices and billing systems. Our terminals will

connect to devices either on unlicensed frequencies, or using our partner operators' frequencies to provide better coverage for their customers. OneWeb's architecture will provide layer 2 and layer 3 services that can be used by any ISP or telecommunication provider to extend any network. Our small cell terminals and core network will be fully 3GPP compatible, allowing OneWeb to work together with providers in any regulatory environment, anywhere in the world.



G-Mobile Protects and Grows SMS Business with PCCW Global's A2P ValueMax

PCCW Global, the international operating division of HKT, Hong Kong's premier telecommunications service provider, and G-Mobile, a Mongolian mobile network operator, have signed a services agreement to protect and increase the Mongolian operator's SMS revenue with PCCW Global's A2P ValueMax, a solution that improves an operator's A2P SMS business by preventing SMS fraud, maximizing SMS revenue and enhancing the subscriber experience. Mobile Network Operators (MNOs) are victims of SMS "grey route" and "sim-box" fraud, where unscrupulous A2P providers take advantage of friendly, open-door SMS policies to send bulk messages without paying mobile networks. Typically, large corporates such as banks, Internet companies and airlines make use of these providers' services in good faith, paying full price for legitimate SMS delivery methods. But some providers then use SMS "back doors", bypassing legitimate delivery methods and cutting

out MNOs to maximize their profits. These shady delivery practices not only adversely affect global MNOs revenues and profits, they also provide an inferior SMS experience resulting in reduced trust from subscribers and enterprises. From its position as a global carrier, PCCW Global tackles this problem head-on with A2P ValueMax, a unique solution which combines the on-site installation of the best-in-class SMS firewall with an additional managed security layer. PCCW Global's security experts provide firewall setup validation, relentless firewall stress testing and, most importantly, SMS Market Intelligence. The solution allows an MNO to achieve full dynamic protection against A2P SMS fraud. SMS Market Intelligence extensively profiles SMS traffic to provide detailed information about SMS delivery, fraud and pricing. Combined with dynamic firewall management, this fully-managed solution offers a unique end-to-end visibility of A2P SMS business for any MNO. Ms. Ronnie Klingner, President,

Mobility, Security and Digital Solutions, PCCW Global, said, "The A2P ValueMax solution enables mobile operators to speedily regain control of their revenue streams. Its value is not only based on improved security, but also on revenue growth as well. Our intention is to change the SMS ecosystem by reversing the current trend of price erosion and replacing it with a better understanding of SMS market dynamics, while eliminating fraudulent traffic that reduces the real service value of the SMS." Mr. Magnai Ganzorig, Chief Executive Officer of G-Mobile, said, "As an operator committed to delivering trusted and reliable services to our subscribers, we are looking forward to improved security across our network. Recovering lost revenue will also go a long way to ensure that we are in a position to introduce the very best mobile technologies into our network - advancements that will ultimately benefit our subscriber base."

HKT Empowers Enterprises with Multiple IoT Technologies

HKT has established a one-stop Internet of Things (IoT) ecosystem with multiple connectivity technologies in Hong Kong. With a leading edge in both fixed and mobile arenas, HKT is superbly positioned to ride on multiple IoT technologies such as NB-IoT, LoRa, 3G, 4G, LTE-M and Wi-Fi to assist enterprises to transform their business and capture growth potential. IoT, a concept that has sparked the global interest in recent years, refers to the interconnectivity between physical devices, data analytics and the management platforms. IoT has been playing an increasingly important role in many sectors, including property management, transportation and logistics, utilities, healthcare, retail, and infrastructure. IoT has made it easier for organizations, employees and strategic business assets to stay connected across multiple locations. Most importantly, IoT helps enterprises to collect real-time data and capitalize on the meaningful insights, so they can identify new possibilities for



businesses and also enhance customer experience by engaging customers with more personalized services. HKT's creation of an IoT ecosystem has only been made possible through collaboration with an extensive group of partners and industry experts, who have played critical roles in developing different intuitive technologies for different applications. The complete IoT ecosystem will capture data with sensors, transmit such data through secured fixed and mobile connectivity and analyze the same at

the data analytics platform which is stored at the HKT Enterprise Cloud. The business environment is monitored in real-time, with predictions and business intelligence being continuously sent to enterprises for capturing business opportunities. HKT, together with its mobile arm, 1010, delivers best-in-class, end-to-end IoT solutions, including consultancy, delivery, maintenance, technical support and managed services to enterprise customers. HKT aims at helping businesses to

optimize operations, and enhancing the overall experience for consumers, ultimately driving better performance for enterprises. Mr. Tom Chan, Managing Director, Commercial Group, HKT, said, "Powered by our leading fixed and mobile networks and multiple advanced connectivity technologies, we are pleased to develop the most comprehensive IoT ecosystem with end-to-end solutions in Hong Kong. We strongly believe that IoT is a disruptive technology that will drive digital transformation across many industries in Hong Kong." Today, HKT demonstrated to business partners and the media how IoT solutions can help enterprises enhance their efficiencies, improve customer experience, and maximize their profitability in the long-run. The followings are comments from some of our customers: The Hong Kong and China Gas Company Limited: "We started to explore NB-IoT technology

development with 1010 to enhance our existing Automated Meter Reading (AMR) system in early 2017. In the past few months, we conducted a NB-IoT pilot in various districts around Hong Kong with 1010, and were satisfied with the results. It has proven that their coverage and the much stronger signal penetration of NB-IoT are very suitable for enhancing our AMR system. We do expect that this new technology will help Towngas further improve our effective resources planning and ultimately deliver better services to our customers." Hopewell Holding Limited: "Tenants' comfort and enjoyment of a good physical environment is important to Hopewell. 1010's sophisticated facility management solution is effective to ensure that air quality of our facilities is monitored and maintained at a high standard 24x7. The solution enables immediate action to address any potential air quality concern during

tenants' renovation work and it drives improvement among our operations. Delivering premium service quality is always our commitment. Our attention to good air quality is the proof of our service excellence." Great Loyal Logistics Limited: "As a logistics company whose vision is to provide the best cargo services with the most cost effective solutions, the safest and fastest delivery of customers' goods is always our priority. The IoT fleet management solution integrated with a Real-time Imaging (RTI) solution proposed by HKT and 1010 definitely fits our needs. Both customers and our management team can access location and status of the goods anytime and anywhere. The solution also helps us save costs and optimize our operations by monitoring drivers' behavior and offer real-time delivery information. These insights are very helpful for us to enhance our service to customers."

strategy&

GCC Landowners Urged to Unearth Value from Dormant Land

Traditionally in the GCC, owning large pieces of land has been a means of safeguarding wealth for both governments and the private sector. However, these lands often lie dormant and unexploited. According to management consultancy Strategy& (formerly Booz & Company), part of the PwC network, recent growing economic pressure calls for a new approach in order to unlock these lands' true value. Among governments, that value resides in generating income, plugging any budget deficits, as well as in the potential for developing land to better meet the needs of its citizens. In Saudi Arabia for example, the government is consolidating all its strategic land holdings to be used in major government-led development projects. For private sector owners, the goal is the same: to commercially exploit and develop dormant land, however these players will do so due to the need to avoid idle land taxes, hedge against slower growth of their core businesses and to diversify their portfolios. Ramy Sfeir, partner with Strategy& Middle East and leader of the family, investments, and real estate and the deals platforms, commented: "The region has been hit by lower oil prices, political uncertainty has

also risen – we are now in a situation where we need to generate value through all means available, which includes these dormant land banks. We have outlined five approaches to extract value from these lands, which all offer a range of potential returns and corresponding levels of risk." These five approaches are:

1. Mortgaging property or selling and then leasing back: This is the fastest means of releasing capital, with limited requirements and transferring all risk of the property to the buyer. This however often eliminates the opportunity to create long-term value.
2. Leasing the property under a long-term arrangement: This approach is often used, particularly for hotels and malls. This generates recurring income for the duration of the lease, requires limited capabilities and funding, and preserves long-term usage rights for the owner. However, its success depends on the investor, which could be a risk of its own.
3. Selling property outright: Historically, this has been the preferred strategy of large institutional landowners as it required few capabilities and funding. However, its popularity led to a limited real estate investment and

development activity in the region, and is one of the key reasons behind the housing shortage in Saudi Arabia. This approach might also limit any future chances of creating value.

4. Contributing land to a development project with a partner: Here, the landowner partners with an investor and contributes the land as equity, in return for partial ownership of the project, while the investor puts in the capital. When the property starts generating income, the landowner and investor split proceeds based on ownership. The disadvantage is that the approach does not guarantee returns, and it can introduce significant risk due to the owner's lack of control over the developer.
5. Contributing land and equity to a development project: The final option, and the most complex, asks that the landowner shifts from a passive investor to an active developer. In addition to the land, the owner also contributes equity in return for a larger share of the development proceeds. Although it offers the highest potential returns, it also presents the greatest risk, as it requires heavy capital and the widest range of capabilities.

Commenting on this, Karim Abdallah, partner with Strategy& Middle East said, "Unlocking value from dormant land is not easy; there are four key success factors that landowners should consider. They should firstly be proactive and think strategically, they should seek the right deal and partner for them, they should structure the agreement to align with their incentives and retain control, and finally,

they should consider all viable financing mechanisms and vehicles." Bruno Wehbe, principal with Strategy& Middle East concluded, "Long gone are the days when governments and private-sector entities could apply a buy-and-hold mindset to purchasing land. Economic pressures, new taxes on undeveloped land, and other challenges are pushing these owners to exploit their land banks

as best they can, both for their sake and for the rest of the country's economy. Rather than sitting back and waiting for offers from investors, landowners are encouraged to be far more proactive and strategic in seeking their partners, and should follow one of the five approaches outlined above."



UAE's Newest Satellite will Provide Internet to Remote Global Communities

It looks a bit like an alien visitor from another planet. Three spindly legs and an antenna pointing towards the stars. But the communications satellite, a collaboration between a Danish company and Yahsat will supply high-quality, high-speed internet to places where previously even a mobile phone signal was a challenge. In fact, for communities in some of the world's poorest and most remote places, its arrival opens up a lifeline to the 21st century. It means better education, healthcare and opportunities that were previously unthinkable. In the early hours of January 26, UAE time, Al Yah 3 will be perched on top of commercial rocket in French Guiana and blasted into orbit. It is the next step forward for Yahsat, the Abu Dhabi-based satellite communications company that already operates two satellites. The satellite will enable tens of millions of extra people in Brazil and Africa to be covered by the company's services, which include YahClick broadband, as well as entertainment TV channels and inflight internet. By early summer, the company plans to offer internet coverage to 190 million people in Brazil and take the number of African countries it provides services to from 19 to 28, and a staggering 780,000 million people, or 65 per cent of the continent's population. It is little wonder that Farhad Khan, Yahsat's chief commercial officer, describes the potential of new satellite as a "massive opportunity." The company, wholly owned by Mubadala, the Government's strategic investment company, already covers much of the Middle East, including Egypt and Saudi Arabia, as well as southern Africa, Pakistan and Afghanistan. The opportunities for expansion in the new markets are two fold, according to Mr.

Khan. In Brazil, especially in rural areas, there are customers who could afford broadband internet, but are frustrated because the expense for the provider of putting in conventional fiber and copper wire networks means they are without the service. In Africa, the current cost of broadband internet is too expensive for most individuals and makes it unattractive to providers as a commercial venture. Yahsat's solution is to offer the equipment for satellite broadband to these communities that, in some cases, can start from as low as a couple of hundred dollars. "Very few operators are going into areas where there are two or three hundred people in settlements because there is no return on investments for them," Mr. Khan says. "And that for us is the beauty of our satellite technologies." One solution is a partnership with Bluetown, a Danish company whose easily portable base station is powered by solar panels and rechargeable batteries, creating wifi hotspots through YahClick in small and remote communities. The lower cost makes them attractive to government and NGO agencies working in Africa and the developing world. Access to the internet in such places can be dramatic and life changing in sometimes unexpected ways. In the Western Cape province of South Africa, government officials estimated there were perhaps 1.5 million people entitled to state benefits who were not receiving them. With access to Yahsat's satellite signal, and using portable equipment, officials set out to track them down. "We made it possible for [officials] to go to the most remote areas and send biographic and biometric information taken from the citizens to the central processing bureau,"

Mr. Khan said. "They then identified which of these people were eligible and we starting to ensure that people who were eligible for pensions are now being paid." In Pakistan, another partnership with the Interactive Group has brought healthcare to villagers in communities that are sometimes cut off for months on end during the winter months. Doctors carrying portable diagnostic equipment sometimes trek for many hours to reach them. But because the villages are now under the Yahsat satellite footprint, the doctors are then able to send the raw data from everything from blood tests to ECG scans to specialists, often many hundreds of miles away, and get back results, sometimes in minutes. Similar services have been made available to the Maasai of Kenya, while the Nigerian government is working to identify local partners who can use Yahsat to offer low-cost internet in poorer areas. At the other end of the market, the company can offer fast broadband to safari camps and game lodges to meet the expectations of high-end customers. Once Al Yah 3 is in orbit, Yahsat expects to begin offering its new customers services by June. All of this depends, of course, on a successful launch this month. Yet at the back of everybody's mind, no doubt, are incidents like the launch pad explosion of a Space X rocket in 2016, which destroyed a US\$200 million communications satellite Facebook had hoped to use to provide expanded internet access to Africa. Mr. Khan said the Yahsat team have "tested, retested and tested again. But ultimately it is in God's hands." "We have a saying in the region: 'Trust in God, but tie your camel.' Right now we are busy tying our camel." 🇲

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REGIONAL NEWS

Banks Agree Turk Telekom Parent Takeover

The three largest creditor banks of Turk Telekom's parent company Oger Telekomunikasyon AS (OTAS) have reached an agreement with the Turkish government to initiate legal proceedings which will result in a bank takeover of OTAS, according to the Daily Sabah, citing sources quoted by the Hurriyet

newspaper. The report added that Turk Telekom shares rose rapidly following the news. OTAS owns a 55% Turk Telekom stake, and itself is 99% owned by Dubai-based consortium Oger Telecom. 29 banks provided USD4.75 billion in loans to OTAS in 2013, secured on Turk Telekom shares, but OTAS has missed three loan

repayments since September 2016. The three largest creditors – Akbank, Turkiye Garanti Bankasi and Turkiye Is Bankasi – have now reportedly agreed with the Ministry of Transport, Maritime Affairs & Communications to begin a legal process to take over the 55% stake, as an option seen as avoiding harm to Turk Telekom.

Telenor Pakistan Nominated for GSMA Global Mobile Awards

The Digital Birth Registration (DBR) project from Telenor Pakistan has been nominated for the prestigious GSMA Global Mobile Awards (GLOMO) 2018 in the 'Outstanding Mobile Contribution to the UN SDGs' category. DBR aims to provide the fundamental right to identity and to millions of children across Pakistan. Lack of which is a critical impediment in provision of basic services to citizens by the governments. Often dubbed as the 'Oscars' of worldwide telecommunications industry, GSMA Global Mobile Awards recognize and celebrate the phenomenal successes and contributions registered by mobile operators across the world. Telenor Pakistan's Digital Birth Registration initiative, launched in partnership with provincial governments and UNICEF Pakistan, has proved to be a groundbreaking effort towards mediating child's right to identity by augmenting birth registration process in Pakistan. In Pakistan, the process of birth registration has been marred by a host of socioeconomic and cultural hindrances including time, cost, travel, processing complexities, and a general lack of awareness among the masses limited registrations to only one-third of all children in the country. However, the ubiquitous prevalence of telecommunication services in Pakistan opened up new ways to address the issue in an effective manner. DBR was designed to create an enabling environment by making the process



of birth registration user-friendly, efficient and transparent and providing facilitation to citizens and other stakeholders through not only infrastructure and capacity building but also through innovative use of digital technologies. The availability of timely and accurate data will also enable better planning and decision making at policy level. Besides giving the Pakistani children the right to identity and thus access to basic amenities, the initiative also sensitized the masses about the efficacy of mobile technology as a means to access public services. Since its inception, the service has registered impressive impacts in rural and urban areas of the country.

Mobile Internet Speeds See Growth in Saudi Arabia



A Speed Test report, on internet speeds, showed the growth of average download speeds of the mobile internet in the Saudi Kingdom by 80% to 16.2 Mbps, instead of nine Mbps. The report noted that, the growth advanced SAU by 18 ranks

globally, over the previous two months. The static internet download speeds in the kingdom improved by 37%, to an average speed of 21.3 Mbps, instead of 15.5 Mbps, advancing by about 10 places worldwide, according to NNN-SPA.

PTCL Smart Cloud Certified on International Security Standards

Pakistan Telecommunications Company Limited (PTCL) has reached another milestone in Digital Services as it has attained Payment Card Industry Data Security Standard (PCIDSS) certification v3.2 for its Infrastructure-As-A-Service (IaaS) offering – PTCL Smart Cloud. PCI DSS certification is a landmark achievement for PTCL Smart Cloud services, which assures maximum security compliance as per international standards. Pakistan's First SDN-enabled cloud infrastructure is now the country's most secure enterprise grade cloud platform. In today's digital age, the primary concern for any organization while moving towards cloud is the security of their mission critical data. PTCL's IaaS Cloud Services run on two locally hosted Tier-3 certified data centers, which itself is a guarantee of optimal security. PTCL Cloud services achieved this certification after a vigorous evaluation by Risk Associates Europe Limited, whereby Smart Cloud services have been found compliant to all international security

standards. The PCI Security Standards Council is a global open body formed to develop, enhance, disseminate and assist with the understanding of security standards for payment account security. The Council maintains, evolves, and promotes the Payment Card Industry Security Standards. It also provides critical tools needed for implementation of the standards. The Council's founding members, American Express, MasterCard, Visa Inc., etc. have agreed to incorporate the PCI Data Security Standard (PCI DSS) as part of the technical requirements for each of their data security compliance programs. PTCL's Chief Digital Services Officer, Adil Rashid on the occasion said, Serving the Enterprise segment, where security is the prime concern amongst our customers today, PTCL's certified IaaS Platform guarantees provisioning of optimal locally hosted cloud service solutions for our customers. Our Smart Cloud services are transforming organizations by virtue of migration towards state-of-the-art cloud services



resulting in improved efficiency that enables organizations to successfully outperform competition. This certification is a major step towards PTCL's quest to provide secure and reliable cloud solutions. PTCL launched Smart Cloud in June 2016 and has built a satisfied clientele in a short span of time. With custom built solutions that include Virtual Data Centers, Virtual Private Servers and Business Continuity as a service, PTCL Smart cloud is helping organizations revolutionize their business practices and help them realize their growth potential.

Subscribers of We Mobile Network Exceed 7 Million by End of 2017



The number of subscribers of Egypt's recently launched We mobile network has surpassed seven million by the end of 2017, according to an official source in Telecom Egypt (TE). He added that TE, which launched the We network, will provide new offers regarding the 4G service and voice calls next year. The company is also preparing to expand in many governorates and open new branches for the We network. It will also pump new investments to develop the infrastructure and expand in new cities as well as the New Administrative Capital. TE's Chief Executive Officer Ahmed al-

Beheiry said in a statement that the demand on the new network was strong and exceeded expectations. He said that his company has invested LE 6.5 billion, in addition to the license's cost. The state-owned Telecom Egypt has launched in September its long-anticipated We mobile network to become the fourth mobile network operator in the country. The three other operators are Vodafone, Orange and Etisalat. The company offers 2G, 3G and 4G services, using its own network and roaming agreements with Etisalat and Orange. The launch of the network kicked off with strong demand as

it offered competitive calls and internet bundles. TE inaugurated in September its first customer service center in Cairo's Mohandessin district. Beheiry said in earlier statements that TE's entry into the mobile market had been necessary on the back of declining revenues from fixed landlines, which stand at LE 6 billion a year. The company expects that revenues from the mobile network will constitute some 16 percent of its total revenues in 2022. TE has a monopoly on fixed landlines in Egypt and has more than six million subscribers.

UAE Smartphone Maker seeks to Strengthen Presence in Local Market

YaHalla aims to launch its third product - BAA - in the UAE in January 2018. The UAE-based YaHalla, the first Emirati-owned company to design smartphones in the country, aims to strengthen its presence in the local market after making a mark in the African continent. Speaking to Khaleej Times, founder and CEO Bader Samir Tayeb said the company aims to launch its third product - BAA - in the UAE in January 2018. Launched in 2016, the company introduced its first smartphone Alif and tablet Alpha last year - both priced at Dh999. The upcoming BAA will be priced at Dh1,099. "More than 80,000 units of Alif and Alpha were produced, with nearly 90 per cent of them sold - mostly in Africa. Initially, I didn't think Africa would capture such a large share of our brand. But the flow took us there due to strong demand for the devices from African customers," said Tayeb. Headquartered in Deira, YaHalla employs 100 workers in the UAE to design the devices. It assembles the devices at a facility in China. According to the Telecommunications Regulatory Authority (TRA) figures for the second quarter of 2017, 81.5 per cent of handsets registered on the UAE's networks were smartphones. A report indicated that during Q2 2017, 34.5 per cent of all handsets registered on UAE mobile networks were manufactured by Samsung. Nokia handsets were the second most popular manufacturer with a presence of 22.9 per cent. Apple manufactured the third most popular handsets used in the UAE with a share of 15.5 per cent. This was followed by Lenovo with 5.4 per cent and then Huawei with 3.2 per cent. "We will officially launch our second phone, BAA, in January in the UAE. It is one of the few smartphones in the world that has 10-core processors. The back camera is 12-mega pixels while the front camera comes with 8-mega pixels. The front camera is also equipped with a flash for selfies. It has some built-in UAE government apps such as Dubai Police, Dubai Airports, Dubai Now, Smart Dubai, etc." He added that the UAE



- Dubai in particular - is booming and YaHalla was established to do something different. "We decided to enter tap mobile phones because it's a growing business not just in the UAE but globally as well; it offers good returns on investment. I have made breakeven during the production of the first two products," Tayeb revealed. With an intention to capture one per cent of the global market, Tayeb aims to make YaHalla a household name in the UAE as well. "My plan is to be number one in the world but before that, I've to be first in the local market. We will grow slowly and steadily. For BAA, the plan is to increase 10 to 15 per cent production of new phones with at least 100,000 units. We intend to sell 30,000 units in the UAE and the remaining outside," the Emirati entrepreneur said.

Pakistan Witnesses Boost in Mobile Broadband Penetration

Mobile broadband market penetration increasing from below 1 percent in 2012 to 24 percent in 2017, according to an official data. The 3G/4G subscribers reached 47 million out of 143 million mobile users in the Country, Teledensity for 3G/4G subscribers reached 23.33 percent present and Teledensity of cellular subscriber reached 70.25 percent till the month of November whereas mobile broadband (3G/4G) users' were 37.574 million till December 2016. The Ufone 3G users reached 5.5 million, Telenor 3G users reached 10.5 million, Mobilink 3G users reached 14.06 million and Zong 3G users reached 9 million till November 2017. Telenor 4G users

reached 1.3 million, Mobilink 4G users reached 1.7 million and Zong 4G users reached 4.8 million. Whereas the cellular subscribers have been reached 143 million with Teledensity of 70.83 percent revealed by Pakistan Telecommunication Authority (PTA). Reducing Custom duty on Smartphone in year 2017-18 also increased usage of the smartphone and given boost to mobile broadband. Owing to boom in the Smartphone market and attract foreign brands, the government had reduced withholding tax on mobile phones from 14 percent. Moreover, customs duty on Smartphone sets will be cut to Rs 650 per set. The government has reduced taxes on certain kind of

smart phones, the budget document has claimed. According to details, one category - for which import duty was Rs 1,000 - has been reduced to Rs 650. It must be mentioned that there were three categories of handsets as following: Feature phone - Import Duty: Rs 300, Low end smartphone - Import Duty: Rs. 650 (Previously it was Rs. 1,000) and High end smartphone - Import Duty: Rs. 1,500. With this tax reduction mid-range and low-end phones will see a price reduction, as most of the smartphone companies in Pakistan adjust their prices according to taxes and import duties. A PTA official said that the step has been taken to increase the uptake of smart phones in the Country.

Omani Investment Firm Acquires 32% Stake in Awasr

The Oman National Investments Development Company (Tanmia) has finalized a deal to acquire a 32% stake in fiber-optic service provider Awasr. Times of Oman reports that under the deal, Tanmia will invest in Awasr through a combination of equity purchase from the current owners and a capital increase to finance new development projects and enhance the expansion strategy. Awasr launched commercial fiber-to-the-home (FTTH) broadband services for residential

and business customers in March 2016. Network coverage is currently available in parts of the capital Muscat, including Al Maabilah, Al Mawaleh, Al Khoudh, Al Seeb, Al Hail, Wadi Al Lawami, Azaiba, Al Ghoubra, Al Qurum, Shati Al Qurum, Al Wadi Al Kabir, Wadi Adai, Al Hamriya and Darsait. 'This acquisition is a major milestone for Awasr as it serves our goals to establish ourselves as a major player in the telecommunication market in the Sultanate of Oman,' commented

Abdulmonem Al Futaisi, Awasr's COO, adding: 'We have, in less than two years, been able to reinvent the internet market in Oman with our offerings and we aim to continue this innovation path in the future ... Our plan this year is to extend our services outside of Muscat to be able to provide customers with high-speed internet services in different parts of Oman.'

USF to Spread Broadband Services in Baluchistan

Spreading the telecom services in far-flung areas of Pakistan, Universal Service Fund (USF) has played a vital role. Insiders suggest that USF can also play its role in the promotion of broadband services in the country. USF to Spread Broadband Services in Baluchistan. In 2017, the development of telecom infrastructure and services in Baluchistan by various telecommunication operators became possible through USF projects. USF is an autonomous organization under the Ministry of Information Technology. It has paid almost Rs50 billion to different operators for projects in different telecom regions since 2007. Ufone received the grant of Rs14 billion, PTCL received Rs12.2 billion and Telenor received Rs5.2 billion. USF spokesperson said: "USF has set out an aggressive strategy to roll out basic infrastructure

for telecommunication, basic telephone and internet services for the people and businesses in Khyber-Pakhtunkhwa and Fata," USF has reported that, five out of six optical fiber projects were based in Baluchistan. However there is still need for improvement because the province has the lowest number of mobile phone users. USF spokesperson also mentioned: Since January 2017, USF has been working to spread first telephone and now broadband services in remote areas like Awaran-Lasbela, Kohistan, Kharan-Washuk, Dera Bugti, Khyber and Mohmand, which is playing a huge role in socio-economic uplift of people and creating immense opportunities in far-flung areas for progress and prosperity. Parvez Iftikhar, who served as the first USF CEO said: After completing the goal of covering more than 90%

of Pakistan's telephonic signals, now USF can play a vital role in broadband penetration by taking three steps laying fiber optic cables, digital literacy and creating local content. People in remote areas of Pakistan are mostly from poor backgrounds, so they would like to invest in a smartphone in only one case if they find content about their daily life like new techniques of farming or tips about cattle rearing in local language. so there is need to create content in local languages by USF. For the expansion and penetration of ICT services across Baluchistan, USF financing is absolutely necessary. That will in return give a synergetic effect to the China-Pakistan Economic Corridor (CPEC). And as a result it will attract cellular operators to expand their network within the province. 📶



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ARTICLE

Technology for the “Greater Good”



Rajeev Suri
CEO
Nokia

NOKIA

What good is technology?

I believe technology serves us best when it gives us more time to do things that are uniquely human. This includes activities that are enjoyable, creative, and productive.

The widespread deployment of high-capacity, low-latency 5G networks is a major catalyst to the digital infrastructure of the future.

For nations and societies, the “good” or benefit of technology is often expressed in economic terms, in measures such as workplace productivity and business growth.

As we move into the Fourth Industrial Revolution and the digital transformation of life as we know it, the potential benefits and risks of this new era are in ongoing discussion, in Davos and elsewhere. Will the Fourth Industrial Revolution deliver on its promises? Is it simply hype, or will it be a massive engine driving productivity gains, economic growth, and business success?

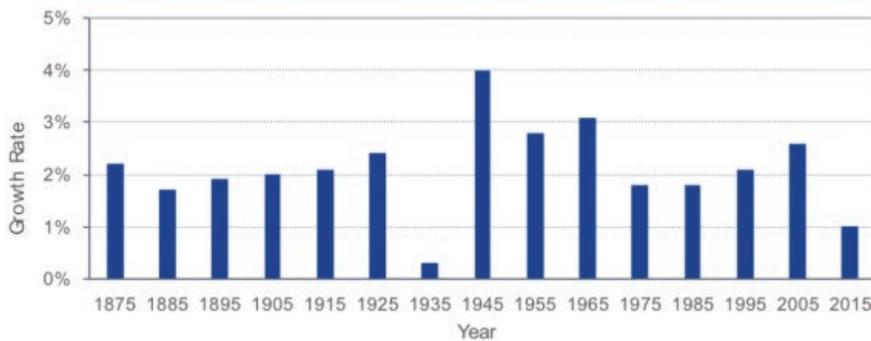
Lessons of the past

Nokia Bell Labs researchers have analyzed historical data from previous industrial revolutions to model and forecast the potential impact of the next one.

During both the First Industrial Revolution (which was fueled by iron and steam engines) and the Second (which was powered by electricity, steel, chemicals, and telecommunications), productivity boomed. Starting around 1870, these two revolutions sustained a Golden Century of progress. The 1940s and 1950s in particular, brought massive gains in the United States and elsewhere.

Then what happened? The Third Industrial Revolution arrived, ushering in the Information Age. Massive, world-changing innovations emerged in computing, the internet, mobile communications, and much more. Yet instead of revving up again, the productivity engine sputtered. In fact, since 1970, productivity growth has fallen to roughly one-third the rate of the previous 100 years.

If all the hard work, innovation, and investments in technology over the past half century have failed to pay off in productivity, what does this mean for the huge investments already taking place in the Fourth Industrial Revolution infrastructure?



US labor productivity growth rates averaged by the decade for the period 1875–2015.

A pessimist would say we should skip it and put our money elsewhere.

But I am an optimist. I absolutely believe that we are on the cusp of not just a technological revolution, but a productivity revolution. It will bring benefits for people everywhere, make our planet more sustainable, and provide new opportunities for businesses of all kinds.

Fortunately, Nokia Bell Labs' research concurs with this view.

The causes of revolution

In analyzing what made the Golden Century of 1870 to 1970 possible, it becomes clear that four physical infrastructure technologies provided the underlying foundation for growth: energy, transportation, health and sanitation, and communication.

These fundamental technologies were important on their own, but two other factors were essential for accelerating growth. The first was when the diffusion – or adoption – of each technology was widespread enough to reach a tipping point. The second was a network effect: the technologies needed to work in tandem to drive growth. Only when all four technologies were widely diffused did fast growth happen.

Next, the research looked at today's technologies. It found emerging digital equivalents that align with the four technology foundations of the Golden Century:

- Digital energy: combining smart power grids and smart meters into platforms that dynamically match energy generation and demand from both new and traditional sources.
- Digital transport: moving people and goods across oceans, skies, and land autonomously.

- Digital health: remotely enabling connected health care from anywhere.
- Digital communication: connecting billions of people and things, allowing them to interact in new ways.

A fifth foundational technology – digital production – was added to these. It will bring a paradigm shift, from centralized mass production to distributed, localized production, combining edge cloud computing and 3D printing to create goods in near real time.

Forecast for growth

By calculating when these digital technologies could reach their tipping points and by applying historical formulas, Nokia Bell Labs has projected a significant productivity jump, as much as 30% to 35% in the U.S., starting at some point between 2028 and 2033. This is a similar leap to the 1950s and could add approximately \$2.8 trillion to the U.S. economy. Similar gains are anticipated in India, China, and other nations.

The widespread deployment of high-capacity, low-latency 5G networks is a major catalyst to the digital infrastructure of the future. This reality is not far off. Wide trials are taking place this year that could lead to full commercial 5G deployments

in 2019. The U.S., China, Korea, and Japan are at the forefront of these efforts.

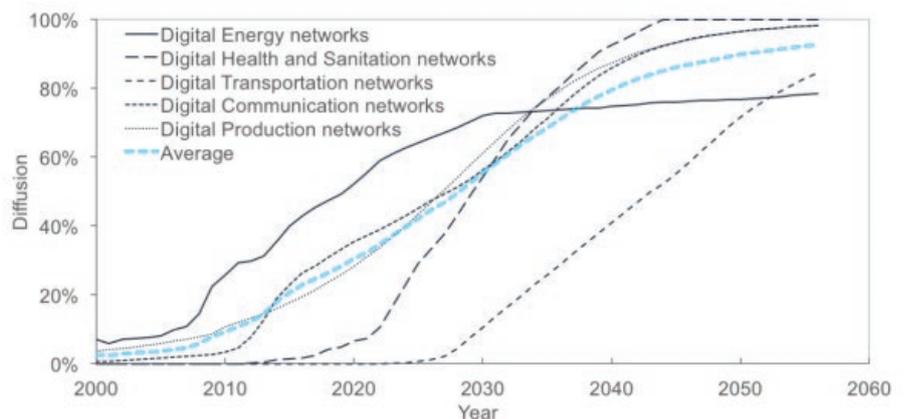
5G and cloud technologies will underpin and accelerate the digitalization of industries. In turn, this will create opportunities across nearly every segment of the economy, from health care to transport, energy, and beyond. Telecommunication companies that take the path to 5G now, and focus on software-defined networking and the cloud, have a massive opportunity to benefit from serving these industries during their transformations.

As in each of the previous industrial revolutions, such gains come with economic trade-offs and elicit new challenges. An obvious concern is the implication for skills development as the workforce transforms. Policy work is also urgently needed, as the UN Broadband Commission reported, both between governments and within countries. It must determine how the public sector can help identify and realize the benefits of digitalization, primarily by providing a framework for collaboration across different sectors of the economy.

Such work between governments, technology companies, and the emerging digital industries is an essential building block for realizing the massive potential of the Fourth Industrial Revolution.

This includes not just the economic potential, but also the personal and social benefits: making life better, preserving our planet's resources, and giving people more time and freedom to connect with each other and the things they enjoy.

After all, these are the greater good that technology is meant to serve. 🌱



SATELLITE NEWS

SSTL Starts Operations of Viasat Antenna System



Surrey Satellite Technology Ltd (SSTL) and Viasat have started operations of the new Viasat antenna system installed at SSTL's Guildford headquarters. The new antenna system forms part of the Viasat Real-Time Earth (RTE) network, a hybrid ground and space network designed to provide low-latency satellite data to users on-demand without the need to invest in a dedicated antenna system. Through this relationship, SSTL can now offer satellites with a full range of ground services to their customers, enabling quick delivery of data to customers' processing centers

on a subscription basis, the company stated. The antenna system installed at SSTL is a full-motion, 5.4m system that can operate in both S and X bands and is fully-controlled from the Viasat Network Operation Centre in Colorado. The Guildford site joins other sites in the United States, Argentina, Australia and Sweden as part of Viasat's roll-out of the RTE network. The new antenna system was installed in November 2017, and it has been successfully used to command and control SSTL satellites, thus fully testing out the network architecture, according to the company. Seamless routing from the SSTL Satellite Operations Center (SOC) in Guildford through the RTE network to the satellites has been achieved and final testing is now underway. The companies expect it to be completed by the end of this month. "Viasat and SSTL have worked closely together on the integration of SSTL specific uplink and downlink protocols into the RTE ground station equipment to achieve plug-n-play compatibility between the satellites and SSTL's SOC. SSTL's satellites will now be able to utilize any of the ground stations within Viasat's RTE network seamlessly with no hardware changes needed," said Kent Leka, general manager of antenna systems at Viasat. In addition to the RTE network, SSTL's ground infrastructure includes two ground stations in the United Kingdom and a ground station mini rack at Kongsberg Satellite Services facilities in Svalbard, Norway.

ITU Aims to Keep the Radio on with New Satellite Regulation Fees

The International Telecommunications Union (ITU) will next week discuss changes to satellite constellation regulation and fees, an effort needed to keep space useful for communications. The ITU currently charges flat fees when called upon to consider how to accommodate a satellite's communications needs, a scheme developed a time when geostationary orbits dominated the satellite business. As a bird in such an orbit hovers over one spot on Earth, it's relatively easy to assess its requirements. Today, however, governments and entrepreneurs have considered satellite fleets comprising dozens or even dozens or hundreds of birds, in all sorts of orbits. The work required to plan for such satellites'

operations has therefore become very complex indeed. The ITU started to plan for more complex operations last year, producing a plan shortly before Christmas 2017. That plan puts forward three possible fee scenarios:

- Bespoke fees for each configuration – The ITU noted that "The advantage of this approach is that it maintains consistency with the regulatory decision by WRC-15, is simple, understandable and fully transparent and does not affect smaller or simpler systems that only have one set of orbital characteristics";
- Flat fee for a set maximum number of satellites – The ITU suggested a maximum number of 1,000 satellites,

with a supplementary fee after that number; or

- Base additional fees on EPFD (equivalent power-flux density) computations.

Next week, the report will be considered by the ITU's Council Working Group on Financial and Human Resources on Thursday, and after that, by the Radio Regulations Board and ITU-R Working Parties in March. If all goes well, those deliberations should mean the ITU has sufficient resources to run its ruler over future satellite swarms so that the only interference they encounter is bureaucratic and friendly.

Rocket Lab Tested New Kick Stage on Latest Electron Rocket Launch

Rocket Lab, whose new Electron launch vehicle recently reached orbit for the first time, revealed Jan. 23 that the

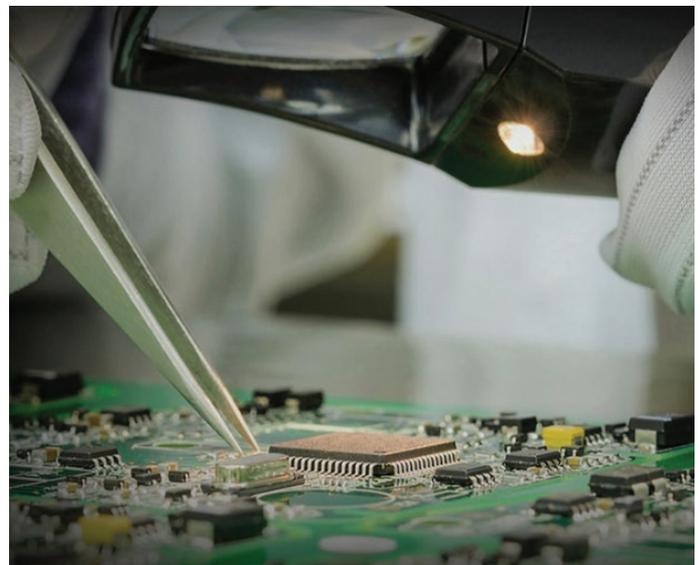


rocket included a previously undisclosed kick stage designed to increase orbital options for small satellites. The kick stage is equipped with its own avionics, power and communications systems, and Rocket Lab plans to offer it as an option for future flights. "With the new kick stage, Rocket Lab can execute multiple burns to place numerous payloads into different orbits," the company said. To minimize space junk, the kick stage is designed to de-orbit after it finishes its

mission. During its January 21 mission, the Electron lifted off from New Zealand and deployed three small satellites: a Planet Dove Pioneer for Earth imaging, and two Spire Lemur 2 for weather and ship tracking. While the rocket's second stage coasted for about 40 minutes before firing an engine and placing the Lemur 2 cubesats into their optimal, circularized orbits, Rocket Lab said.

Comtech Awarded \$11 Million for Space-Level EEE Parts

Comtech Telecommunications announced that, during its second quarter of fiscal 2018, its command and control technologies group, which is part of Comtech's government solutions segment, has received a letter contract from an undisclosed major U.S. space contractor to source and test space-level Electrical, Electronic and Electromechanical (EEE) parts in support of a critical NASA program. This contract is valued at more than of \$11 million and was initially funded in excess of \$4 million. "This is the second large order we've received from this customer this fiscal year and I consider this the beginning of an enduring relationship," said Fred Kornberg, president and Chief Executive Officer (CEO) of Comtech Telecommunications. The company's command and control technologies group provides mission-critical, highly-mobile Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) solutions from the desktop to the edge of the network, for land, maritime, and airborne applications.



Norwegian Space Center Orders New AIS Microsatellite

The Space Flight Laboratory (SFL) announced the Norwegian Space Center has ordered a new, 15 kg microsatellite satellite called NorSat 3. Construction is well underway at SFL's manufacturing facility at the University of Toronto. NorSat 3 will carry an experimental navigation radar detector to augment ship detection capabilities from its Automatic Identification System (AIS) receiver. NorSat 3 will add another satellite to Norway's assets in space – four in total so far, all producing data related to maritime traffic monitoring. Combining a navigation radar detector

and AIS receiver will potentially provide much better maritime awareness for the Norwegian Coastal Administration, Armed Forces and other maritime authorities, said the Norwegian Space Center. NorSat 3 is a civilian satellite designed to capture signals from civilian navigation radar. The satellite is funded by the Norwegian Coastal Administration and managed by the Norwegian Space Center. The Norwegian Defense Research Establishment (FFI) is leading the development of the radar detector payload, which is funded by the Ministry of Defense. According to the

Norwegian Coastal Administration, AIS message reception alone may not provide a complete picture of maritime traffic. The problem of missing or manipulated AIS messages can only be addressed through the use of supplemental sensing technology. In the case of NorSat 3, a navigation radar detector provides some supplemental support for more accurate ship detection and identification. Detections of navigation radar from ships will provide the ability to verify the accuracy of received AIS messages and also the ability to detect ships whose AIS messages have not been received.

GA-ASI Demos Satcom Launch and Recovery with Remote Aircraft



General Atomics Aeronautical Systems (GA-ASI) successfully demonstrated its latest Automatic Takeoff and Landing Capability (ATLC) using a satellite communications data link for its MQ-9B SkyGuardian/SeaGuardian Remotely Piloted Aircraft (RPA). The demonstration also included the first satcom taxi of the MQ-9B. According to GA-ASI, this capability will eliminate

the need for a ground control station and flight crew to be located at the aircraft's base, which will drastically reduce airlift requirements when the RPA is forward deployed. The satcom-only Launch and Recovery Element (LRE) operations capped another year of accelerating development for the MQ-9B, which included an endurance flight of more than 48 hours in May 2017 and the first Federal Aviation Administration (FAA)-approved flight for a RPA in non-segregated airspace in August. The company conducted the demonstrations in December using GA-ASI's capital MQ-9B SkyGuardian. The supervisory crew and ground control stations operated out of the company's Gray Butte Flight Operations Center near Palmdale, California, and the aircraft was flown out of Laguna Army Airfield near Yuma, Arizona. Using only a satcom datalink, the team successfully taxied the aircraft and initiated six auto takeoff and landing events.

How Secure Are In-Flight Connectivity Systems?

The aviation world has come a long way from the days when the extent of connectivity in the cabin revolved around self-contained in-flight entertainment and connectivity (IFEC) systems comprising a server, distribution system and seatback displays. Being connected was limited to watching a movie offered by the airline or scanning pre-recorded news broadcasts. Then came SwiftBroadband service followed by more powerful high-bandwidth satellites and Wi-Fi in the cabin, and with it, a proliferation of passenger smartphones and other devices. It's not surprising that 81 airlines today offer a full range of IFEC services with the ability for travelers to connect their personal electronic devices (PEDs) to the aircraft's wireless network. Airplanes today are no longer "isolated aluminum tubes," says Frederick Schreiner, CTO of Thales InFlyt Experience, but nodes in the Internet of Things. "We're talking to it; people are

able to connect, stream, text and browse." Airlines, he added, are increasingly investing in data analytics, not only to differentiate the customer experience with personalized services, but also to create operational efficiencies on the plane. Considering these advancements and news about cyberattacks on the ground, the question is whether the aviation sector can stay ahead of resourceful adversaries who have successfully exploited network weaknesses in multiple industries. Thales' CTO said collaborative cybersecurity agreements with Airbus and Boeing ensure "the cabin and cockpit domains are properly protected." "On the cabin side, we have a number of layered protections within the IFE system to protect from potential attackers who connect to access points on the aircraft," added Samuel Miller, Thales' product security officer. "We are continuously testing and updating and patching those

controls to make sure that they can protect the IFE system appropriately." Though both Miller and Schreiner agreed that "no one is immune" from threats, they argued that the aviation sector is more process-driven to address security vulnerabilities quickly. That mindset wasn't in place at Equifax, which was hit by a massive data breach early 2017 that comprised personal data on more than 145 million Americans. The cause: an earlier vulnerability that hadn't been mediated quickly. "We're gearing our processes to quickly identify and contain root causes and take the necessary action to mitigate the impact of these things, so that's key," said Schreiner. "You have to have internal processes that are well aligned to respond quickly. If you can get that institutionalized and the appropriate triggers in place, you can act quickly."

Roskosmos Loses Contact with Angolan Telecom Satellite

The Russian space agency Roskosmos has announced that it has lost contact with an Angolan telecommunications satellite launched from the Baikonur Cosmodrome. Roskosmos said that the

launch on 27 December was successful, but that ground control stopped receiving telemetric data from the satellite shortly after it entered orbit. In a brief statement, it said officials were trying to restore

contact with Angosat-1, the African country's first telecommunications satellite.

Sky Signals the End of the Satellite Dish

Sky plans to make all its channels and content available online, giving customers the option of doing away with a satellite dish. The pay TV company already offers some programming online on its Sky Go and Now TV services and through Sky boxes. Sky said offering the option was a "major development" that would let it enter new markets. It hopes that making its hundreds of channels more widely available will increase both revenue and profits. Italy will be its first market to get all Sky channels online, followed by Austria, with the UK expected to follow later this year or in 2019. Sky is not proposing to stop broadcasting by satellite. The move will allow customers who cannot have a dish or do not want one to get Sky, a spokesperson said. A Sky box will still be required. The company's move is a response to greater competition from the likes of streaming services such as Netflix and Amazon. Jeremy Darroch, Sky Chief Executive, said the consumer environment was expected to remain "challenging". Reporting its results for

the six months to December 31, Sky said average revenue per user in the UK and Ireland - by far its biggest market - fell £1 to £46 a month. However, the number of customers leaving - the "churn" rate - decreased from 11.6% at the end of 2016 to 11.2%. Sky said the fall was a result of more customers taking its premium Sky Q box and a "more disciplined and targeted approach to discounting". Mr. Darroch said there was good growth at both the top end of the market, with its premium Sky Q box now in 2 million homes in the UK and Ireland, and the bottom end with Now TV. Now TV offers sports, movies and entertainment channels over the internet more flexibly and cheaply than through a Sky subscription. A new USB stick will allow customers to watch Now TV content on any television - including EU countries when an expected change to "geoblocking" rules comes into effect this summer. The number of Sky retail customers in the UK and Ireland rose by 255,000 to 12.9 million, while Sky added 365,000 new customers to bring the total



to 22.9 million. Like-for-like revenues rose 5% to £6.7bn in the half-year and pre-tax profit jumped by £106m to £448m compared with the same period in the previous year. Last year 21st Century Fox made a bid to buy the 61% of Sky that it does not own. Both companies are controlled by media mogul Rupert Murdoch. This week the UK's Competition and Markets Authority ruled that the proposed takeover was not in the public interest on grounds of media plurality. Since Fox made the bid it has agreed to be taken over by Disney, so the US media giant could end up owning Sky. Sky shares rose 1.1% to £10.35 in afternoon trading in London, valuing the company at £17.7bn.

Arianespace to Launch Intelsat's Galaxy 30 and MEV 2

Arianespace has signed an agreement to launch two satellites for Intelsat. The first launch will carry Intelsat's Galaxy 30 satellite together with the Orbital ATK Mission Extension Vehicle 2 (MEV 2) as a stacked pair. Galaxy 30 will be the first replacement satellite for the North American Galaxy fleet and in addition to its C-band payload, Galaxy 30 will include

Ku- and Ka-band payloads to support broadband applications in North America. Intelsat will be the first customer of the MEV 2, which is owned by Orbital ATK's Space Logistics subsidiary. The MEV 2 provides life-extending services by taking over the orbit maintenance and attitude control functions of a client's spacecraft. Arianespace will launch the

first pair of satellites, Intelsat's Galaxy 30 satellite and the MEV 2, in early 2020 from Europe's Spaceport in French Guiana aboard an Ariane 5 launch vehicle. Under the contract, Arianespace will also launch an additional satellite — yet unannounced — for Intelsat in the second half of 2020.

AsiaSat Launches Hybrid IP, OTT Video Platform

AsiaSat has launched a hybrid satellite/IP platform and an over-the-top (OTT) video delivery service to support Wi-Fi access in rural areas. The Hong Kong-based satellite operator says it evaluated additional distribution methods in 2017, having recognized the demand for next-generation distribution of broadcast content. "The increase in online content and the easy access to video content

via mobile and connected devices has rapidly changed consumers' content viewing habits. It is important for us to evolve our service offerings swiftly in this very dynamic and fast paced market, to help our customers reach their audience instantly and cost efficiently," said Barrie Woolston, chief commercial officer of AsiaSat. The hybrid nature of the product opens business opportunities to rural

areas for village Wi-Fi, for community Internet access in bars, schools or airports, and for maritime or in-flight connectivity. The ready-to-use solutions are fully managed and supported by AsiaSat's Tai Po teleport infrastructure in Hong Kong, with 24/7 monitoring from AsiaSat's customer network center.

Ariane 6 Gets Closer to Flight with Vulcain Engine Test Firing



The German Aerospace Center (DLR) has successfully tested the Vulcain 2.1 engine at its P5 test facility in Lampoldshausen, Germany. The Vulcain 2.1 will power

the main stage of the Ariane 6 launcher, which will fly for the first time in 2020. This is a version of the Ariane 5 Vulcain 2 engine specially adapted for the Ariane 6 main stage to simplify production and to lower costs. To reach these objectives the engine integrates technologies such as a gas generator built using 3D printing, a simplified divergent nozzle, and an oxygen heater for tank pressurization. These adaptations contribute to achieving the cost targets set for the Ariane 6 launcher, while retaining the efficiency and reliability demonstrated on Ariane 5, according to ArianeGroup. The tests

carried out at Lampoldshausen will allow the new engine to be tested throughout its flight envelope (thrust, mixing ratio, propellant supply conditions). In parallel, the Ariane 6 upper stage Vinci engine qualification program is continuing on schedule, with more than 130 test firings performed on the two test beds in France and Germany (the P4.1 at the DLR's Lampoldshausen site and the PF52 at the ArianeGroup test site in Vernon, France), including several demonstrations of the multiple ignition capability required by Ariane customers for their missions on Ariane 6.

Fifth Iridium Next Launch Planned for March

Iridium Communications has announced the date for its fifth Iridium Next launch for March 18, 2018 from Vandenberg Air Force Base in California. The first of four launches planned for 2018, Iridium 5 will deliver 10 more Iridium Next satellites to orbit, bringing the total number of new satellites deployed to 50. This launch will use the same SpaceX Falcon 9 first stage as the Iridium 3 launch that took place in October 2017 and begin a rapid-cadence launch schedule targeting completion of the Iridium manifest by mid-2018. "We are entering the home stretch," said Matt Desch, Chief Executive Officer (CEO) at Iridium. "This is going to be a monumental year for us as we complete our constellation refresh. In addition to four launches, we will continue the testing and validation processes for our new specialty broadband service, Iridium Certus, and look forward to its commercial launch later this year. We consider 2017 to be a great success and anticipate this year to be even better." The Iridium network is comprised of six polar orbiting planes, each containing 11 operational crosslinked satellites, for a total of 66 satellites in the active constellation. The Iridium 5 launch will deliver the new satellites to orbital plane 1, where all 10 will go directly into service after testing and validation. Following Iridium 5, the Iridium 6 rideshare mission is targeted for mid-

to-late April. The rideshare will carry five Iridium Next satellites and the twin satellites for the NASA/German Research Center for Geosciences (GFZ) Gravity Recovery and Climate Experiment Follow-On mission. Iridium Next is the company's \$3 billion, next-generation, mobile, global satellite network scheduled for completion in 2018. The constellation features 66 active satellites, plus nine on-orbit spares. In total, 81 new satellites are being built, with the six remaining satellites serving as ground spares. Iridium Next will replace the company's existing global constellation.



CETel, SES to Deploy Fiber-Like Connectivity in Africa

CETel has signed a five-year contract with SES Networks to connect new exploration and production sites in Africa via SES' Medium Earth Orbit (MEO) O3b satellite constellation, the two companies announced. CETel will leverage the O3b fleet's low latency and high throughput capabilities for Big Data applications required by the exploration and production industry. According to SES, with round

trip latencies below 150 milliseconds, MEO-enabled networks are on par with standard fiber connections, and are more reliable and faster to deploy than other infrastructure. The inking of this MEO deal with SES empowers CETel to serve new applications where lower-latency connectivity matters, and to complement the business applications it currently serves today, according to the company.

"We see MEO connectivity as an ideal extension that complements connectivity delivered by established Geosynchronous Earth Orbit (GEO) satellites. The fleets have their own unique capabilities and are suited for different applications that will help meet the growing demands of content and data delivery," said Guido Neumann, CETel managing director.

EasyCall Accelerates Rollout of VSAT in Philippine Provinces

EasyCall Communications Philippines, owned by the Delgado family since it acquired the company back in 2001, is ramping up plans to deploy data communications and satellite technology to bring internet/data connectivity to far-flung Philippine provinces. In a press statement, the company – which holds a telecoms operator license from the National Telecommunications Commission (NTC) – confirmed it is rolling out VSAT systems in the areas

of Zambales, Negros Occidental, Cavite, Bicol, Isabela, Iloilo and Cebu as part of ongoing efforts 'to continue to improve the digital landscape of the Philippines'. In recent years, EasyCall has deployed VSAT managed services in a number of underserved or unserved provincial communities across the country, such as in Samar, Quezon, Iloilo, Bulacan, Nueva Ecija, Isabela, Leyte and Antique. Now EasyCall President Zaki Antoni Delgado is quoted as saying: 'There is a critical

demand for connectivity in far-flung cities and municipalities, especially in the aftermath of disasters and emergencies, for businesses with remote offices, and for efficient access to services.' The official went on to note that 'despite the complexities we are facing with the terrain and climate of the Philippines, VSAT can effectively deliver secure and reliable connectivity to these places, and enable progress and development.'

Telesat Celebrates Launch of Its First LEO Satellite

Telesat announced the successful launch of its first Low Earth Orbit (LEO) satellite, an important milestone in the company's plans to deploy a global LEO constellation to provide broadband communications services around the world. Telesat's Phase 1 LEO satellite flew into orbit aboard a Polar Satellite Launch Vehicle (PSLV) operated by the Indian Space Research Organization (ISRO). Surrey Satellite Technology Ltd. (SSTL) built the spacecraft at its facilities in the United Kingdom. Telesat aims to deliver fiber-like broadband for business, government and individual users from LEO. The initial constellation will consist of approximately 120 satellites launched by 2021 and Telesat is evaluating options to expand its system beyond this initial configuration. The company expects its Phase 1 testing will demonstrate key features of its LEO system design, in particular the capability of the satellite and customer terminals to deliver a low-latency broadband experience that Medium Earth Orbit (MEO) and Geosynchronous Earth Orbit (GEO) satellites cannot provide. Telesat has installed ground infrastructure at

its teleport in Allan Park in Ontario, Canada, to support testing and has customers in growing enterprise segments who will be participating in trials during 2018.



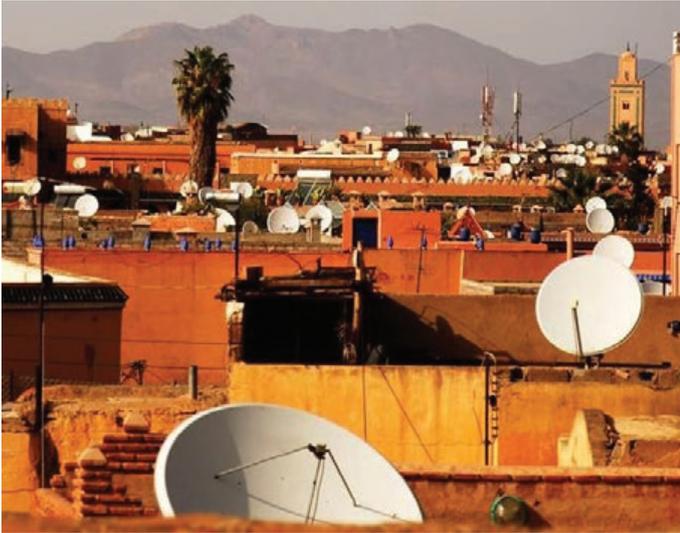
Arianespace Kicks Off Production for Final Ariane 5 Rockets

ArianeGroup and its Arianespace subsidiary have announced an order for 10 Ariane 5 ECA launchers, dubbed the "PC batch." Arianespace will deploy this last set of Ariane 5 rockets from the Guiana Space Center beginning in 2020, coming after the launches of 18 Ariane 5s ordered in 2013 (the PB+ batch). According to Arianespace, the order's size aligns with the ramp-up for the next-generation Ariane 6, which is scheduled to make its first flight in mid-2020, reaching full capacity in 2023. This decision follows the commitment made by Arianespace in December 2016 to initiate the procurement of long lead items. It also allows ArianeGroup, industrial

prime contractor for the development and operation of the Ariane 5 and Ariane 6 launchers – as well as its European partners (more than 600 companies in 13 countries, including some 350 small and medium-size enterprises) – to start initial production activity for these additional launchers. This new batch of rockets guarantees durability for launch service offerings by Arianespace for institutional and commercial clients until the end of the transition phase with Ariane 6. Ariane 5, which chalked up its 82nd successful launch in a row in December 2017, has undergone continuous performance improvements since the beginning of the Ariane 5 ECA program. As a result,

Ariane 5 set a new record in June 2017 by lofting 10,865 kg (more than 10 tons) into Geostationary Transfer Orbit (GTO). From this payload lift record, Arianespace aims to increase Ariane 5's performance by another 250 kg by 2020 – with the PC production batch taking full advantage of the improvement. "This new contract ensures that we will have the best conditions to succeed in the operational transition from Ariane 5 to Ariane 6 for the benefit of all our customers," said Luce Fabreguettes, Arianespace executive vice president of missions, operations and purchasing.

Free-to-Air Channels on the Rise in the Middle East



Eutelsat Communications released new data about the TV channels it broadcasts from its 7/8 degrees west video neighborhood at the CABSAT trade show in Dubai. According to Eutelsat, the neighborhood's attraction is driven by the growth of High Definition (HD) content now broadcast on 187 channels at this position. One visible shift can be noticed when it comes to Free-to-Air (FTA), which is now broadcasting more than 110 HD channels, a 44 percent increase from January 2017 to January 2018. This acceleration, which once mainly applied to Gulf countries, now applies to the entire region, especially Levantine and North African countries, Eutelsat said. The pace of HD adoption is accelerating in the Middle East and North Africa region. According to Eutelsat's latest TV Observatory report relating to Algeria, Egypt, Morocco and Saudi Arabia, HD-equipped homes at 7/8 degrees west neighborhood are now reaching 20.6 million (66 percent of TV homes), up from 10.7 million in 2016.

UAE Space Agency Launches iShuttle

The UAE Space Agency has launched a new online portal called 'iShuttle'. The new portal is designed to engage with and drive interest in space among students, teachers and the wider public. The portal will also serve as a platform from which the Agency will engage with the public to crowd source creative ideas and solutions to problems by launching and promoting various 'challenges'. Aligned with the Science Technology and Innovation Roadmap, established in 2016, the iShuttle portal seeks to further develop the UAE's capabilities within the international space sector by inspiring national youth to study and pursue careers

in Science, Technology, Engineering and Mathematics (STEM) subjects. The iShuttle challenges will allow UAE residents of all walks of life contribute to the nation's ambitious National Space Program by submitting their ideas and solutions to the UAE Space Agency, solving complex problems, and designing unique experiments. The challenges will vary in length and complexity, and while team-work and group submissions are encouraged, individual proposals will be accepted as well. Expert panels composed of university faculty and representatives from the UAE Space Agency will be formed for each challenge

and will select the winning submissions. The first 'challenge,' involving a concept experiment for a balloon mission has already gone live. Dr. Ahmad Belhou Al Falasi, Minister of State for Higher Education and Chairman of the UAE Space Agency, said: "Encouraging students to enter STEM fields is a key goal of the UAE Space Agency and a priority of the UAE Vision 2021 to ensure that the UAE develops the human capital necessary to create a world-leading knowledge economy. We seek to prepare and nurture generations of talented UAE nationals to become leaders in the space industry and its related technological fields."

ViaSat 2 Confirmed for Commercial Launch in February

ViaSat announced it has begun beta service on the ViaSat 2 satellite, and affirmed plans for full commercial service launch in February. The company expect the ViaSat 2 satellite system to significantly improve speeds, reduce costs and expand the footprint of its broadband services across North America, Central America, the Caribbean, a portion of northern South America, as well as the primary aeronautical and maritime routes across the Atlantic Ocean between North America and Europe. To date, ViaSat has successfully completed a number of key performance

tests on the ViaSat 2 satellite and end-to-end network, including demonstrating downstream speeds of more than 100 Mbps to production consumer terminals. The satellite ground network and other networking technologies are performing better than initially planned as measured in successful alpha testing, the company stated. The satellite will continue to undergo testing during the beta service period, as Boeing has identified an in-orbit antenna issue, which has caused some spot beams to perform differently than they did during ground testing. Boeing, with ViaSat's support, is working

to determine the root cause of the issue and to identify corrective measures. Based on measured data and analysis of the current in-orbit performance of the satellite as well as the network as a whole, ViaSat believes the issue will not impact the coverage area of the satellite, or materially impact the system's planned services and expected financial results. ViaSat will provide an update on the status of the ViaSat 2 service launch plans and ViaSat 1-based market testing of these plans at the next regularly scheduled earnings conference call, planned for early February.

ASECNA, Aireon Partner to Enhance Safety in African Airspace

Aireon announced today that it has signed a data services agreement with the Agency for Aerial Navigation Safety in Africa and Madagascar (ASECNA). Together, the pair will bring real-time air traffic surveillance to high-trafficked, terrestrial African corridors. ASECNA is one of Africa's largest Air Navigation Service Providers (ANSPs), covering 16.1 million square kilometers of airspace, through six Flight Information Regions (FIRs) – Antananarivo, Brazzaville, Dakar Oceanic, Dakar Terrestrial, Niamey and N'Djamena. ASECNA is responsible for air traffic services in a significant part of the African continent, handling frequently traveled routes between Europe, East and Southern Africa and South America. With Aireon data, as early as 2019 ASECNA will be able to introduce a continuous layer of surveillance, augmenting existing infrastructure and completing coverage for their entire airspace. According to the organization, this will significantly improve service availability to airlines and enhance safety and efficiency in African

airspace. "The vastness of the landmass that ASECNA is responsible for poses an immense surveillance challenge, especially because it is not always possible to install or maintain ground infrastructure," said Mohamed Moussa, ASECNA Director General. ASECNA joins

other African ANSPs in the deployment of space-based ADS-B. South Africa's Air Traffic and Navigation Services (ATNS) and Seychelles Civil Aviation Authority (SCAA) have also signed agreements over the last 18 months.



3GPP Setting Up Satellites for 5G Connectivity



With increased participation from industry stakeholders, 3GPP reported study groups are working to sort out the role satellite and other non-terrestrial networks will play in 5G. The standards body already studied the benefits of satellites for 5G as part of Release 14 and said it's now moving ahead with at least two study items to work out the technical aspects of integrating satellite networks into 5G deployments. One study item, known

as TR 38.811 (pictured, below), seeks in its first phase to define deployment scenarios and related system parameters, as well as gain more information on channel models. The second phase of the study will tackle evaluation and definition of RAN protocols and architecture. Another item, 3GPP's Study on using Satellite Access in 5G, aims to identify use cases for the provision of services using integrated satellite-based access. This includes the identification of new and existing services and their requirements; set-up, configuration and maintenance requirements; and regulatory issues which arise when switching between satellite and terrestrial networks. The group's conclusions are expected to be revealed as part of Release 16. The push to study satellites' role in 5G comes as companies like OneWeb and Elon Musk-backed SpaceX move toward deployment of low earth orbit satellite networks to provide broadband internet across the globe. OneWeb is backed by a number of high-profile companies including SoftBank, Qualcomm, Virgin Group, Airbus Group, Hughes Network Systems, Intelsat and Bharti Enterprises, among others. 3GPP said the incorporation of satellite networks will help enable 5G service rollouts in un- and under-served areas, enhance reliability and increase service availability everywhere to the benefit of critical communications and transportation applications.

Morocco Satellite Launch Could Accelerate Spanish Space Efforts

Morocco's launch of its Mohammed 6-A satellite last November could accelerate Spain's work on its SeoSat/Ingenio optical Earth-observation satellite, which is expected to launch in late 2019 or early 2020. Morocco and Spain have struggled to boost their satellite observation capacities since the Perejil Island crisis in 2002 when Spain could not acquire satellite images of the island following reports of its occupation by the Moroccan Navy. Mohammed 6-A was developed by a consortium formed by Thales Alenia Space, which acted as the prime system contractor, and Airbus Defense and Space, which served as co-prime. The satellite launched Nov. 7 to low Earth orbit on an Arianespace Vega rocket from Kourou, French Guiana. Airbus is developing SeoSat/Ingenio on behalf of the Spanish government, with the Madrid-based Center for Development of Industrial Technology (CDTI) funding the mission. It is the optical counterpart to the country's PAZ synthetic aperture radar mission that is slated for launch this January, having overcome a three-year delay because of Russia's unwillingness to permit Dnepr launches by switching in March to a SpaceX Falcon 9. The project development of SeoSat/Ingenio is overseen by the European Space Agency (ESA) as a national contribution within the framework of Europe under a procurement assistance agreement signed between ESA and the CDTI in 2007. Andrés Borges, the program manager for SeoSat/Ingenio at Airbus Defense and Space, told SpaceNews that the group has to subcontract most of the flight equipment and take care of the assembly, integration and test campaign for the satellite's structural, functional and flight aspects. Airbus is also responsible for manufacturing the satellite's platform structure and harness, and manages the development of the image processor prototype. "Once the satellite is integrated at our clean rooms and the test campaigns are finalized, Airbus will take responsibility of the launch campaign and ... collaborate with the European Space Agency during the launch and early operation phase (LEOP) and in-orbit commissioning (IOC) phases," Borges said. According to the SeoSat/Ingenio program manager, the Spanish satellite will be launched from

Kourou onboard an Italian Vega launcher. "The best estimate for the launch date is end 2019 or the first months of 2020. It will depend on the launcher contract signature and the launcher availability," said Borges. CDTI is funding the mission, including launch. "Airbus will be in charge of the launch campaign [which means it will] support the launcher authority to set the satellite in the launcher fairing. Once in orbit, Airbus will lead the LEOP and IOC phases." The total cost for the flight segment, which includes the satellite, platform and instrument, is about 125 million euros (\$149.5 million), according to the program manager. "The ground segment and the launcher are not within Airbus perimeter and we are not completely sure of the financial figures," Borges said. Morocco launched the country's first microsatellite in 2001 when it's Maroc-TUBSAT (Zarkae Al Yamama), a joint undertaking between the country's Royal Centre for Remote Sensing and the German Technical University of Berlin, hitched a ride on a Zenit-2 rocket

aperture radar (SAR) mission. Under the plan, the satellite is to be placed on the same orbit with German TerraSAR and TanDEM-X satellites to form a SAR constellation. Hisdesat communications director Araceli Serrano told SpaceNews the launch of PAZ remains forecasted for Jan. 30. "PAZ is already in California to be prepared for this," he said. Serrano says the Spanish company has a duty of confidentiality in respect to SpaceX, and, due to this, it cannot reveal the value of the contract. As a 1,400 kilogram satellite, PAZ is less than a tenth the mass a Falcon 9 can carry to low Earth orbit. Meanwhile, Algeria, another regional rival of Morocco, successfully launched its first communication satellite from China on December 11. A Long March-3B launch vehicle took Alcomsat-1 to orbit from the Xichang Satellite Launch Center in China's Sichuan province. The Algerian satellite was launched by China Great Wall Industry Corp., who acted as the prime contractor. The Alcomsat-1 was designed and manufactured by the



whose primary payload was the Russian Meteor-3M satellite. Morocco is expected to launch Mohammed 6-B, the second in a pair of Earth-observation satellites, in 2018. The SeoSat/Ingenio is part of Spain's National Earth Observation Satellite Program (PNOTS) whose second component is PAZ, a satellite that was also built by Airbus Defence and Space. Owned by Spain's satellite operator Hisdesat, PAZ is an X-band synthetic

China Academy of Space Technology (CAST). "The successful launch of [the] Alcomsat-1 is the good beginning of space cooperation between [the] two countries. More cooperation, more space programs are expected to be initiated soon," the Chinese company said in a December 11 statement.

China Launches First CubeSat for Canadian Startup

China Great Wall Industries Corporation (CGWIC) orbited Kepler Communications' first telecommunications nanosatellite, KIPP, on Friday, Jan. 19, from the Jiuquan Satellite Launch Center (JSLC) in Northwestern China. The mission serves as a technology demonstration for Kepler's novel Ku-band telecommunications payload. Kepler intends to launch a network of satellites that will eventually enable in-space connectivity for other satellites,

space stations, and transport vehicles. The network will open new business opportunities for applications such as bulk data transfer and the Internet of Things (IOT), according to the company. KIPP is the first of two satellites Clyde Space has designed and manufactured for Kepler Communications. Scotland-based Bright Ascension also contributed on-board and mission control software for the satellite. The number and size of operational spacecraft in Kepler's

constellation will vary at times based on customer demand and new applications. Each satellite added to the network will incrementally increase overall throughput and reduce revisit time. "As the need for connectivity increases, we increase our constellation capacity in tandem," said Kepler Chief Executive Officer (CEO) Mina Mitry. "It is how we believe we can sustainably deploy a Low Earth Orbit (LEO) constellation."

NATO to Upgrade UHF Satcom Control Stations with ViaSat

The North Atlantic Treaty Organization (NATO) has awarded ViaSat a contract to upgrade its Ultra-High Frequency (UHF) satellite communications control stations to comply with the Integrated Waveform (IW) baseline. The upgrade gives NATO greater communications interoperability, scalability and flexibility across legacy and next-generation platforms to enhance situational awareness as the battlespace expands. As part of this award, NATO will upgrade its legacy UHF communications network to Viasat's Visual Integrated Satcom Information, Operation and Networking (VISION) planning and network management platform, a software

package that simultaneously supports all 25 kHz legacy Demand-Assigned Multiple-Access (DAMA) and next-generation IW networks and services. According to ViaSat, the VISION platform gives network operators real-time capabilities to reconfigure UHF satellite networks to meet new mission profiles on the fly. By enabling interoperability between DAMA and IW platforms, NATO can double its channel efficiency without additional investment in the UHF space segment. This optimization doubles the number of users, giving more warfighters access to reliable and resilient voice and data communications, according to ViaSat. "Networked forces

need to be able to receive and execute orders dynamically in the fog of war. With the ViaSat VISION platform, we can use our UHF space segment more efficiently as it more than doubles our existing UHF user access," said Giovanni Battista Durando, satcom service area owner for NATO Communications and Information Agency. "We believe the ViaSat VISION platform will give NATO network operators more control over communications stations from a single terminal, simplifying operations and offering multi-site flexibility to ultimately increase the network readiness of the warfighter." 

ARTICLE

VIVA Bahrain Launches Region's First Fully Integrated Customer Excellence Center

Continues to lead in network modernisation to boost efficiency and customer

VIVA Bahrain, the Kingdom's innovative telecom operator, continues to lead in network modernisation with the launch of a fully integrated Customer Excellence Center (CEC), integrating its network operations and service quality to boost efficiency and superior customer experience. This was announced during VIVA Bahrain's sixth-year participation in the GITEX Technology Week in Dubai.

VIVA has partnered with Huawei to evolve its network operations at hardware and software levels, and exclusively develop and customise real-time dashboards to detect any degradation in services even when there's no technical fault in the network.

As the only telecom operator in the region, and among very few globally, to achieve this milestone breakthrough of successfully transitioning its 'technical operations' to a customer service-centric model, VIVA Bahrain with its new CEC operations will now be able to monitor critical applications, utilised frequently by its subscribers. For this, VIVA has partnered with Huawei to evolve its network operations at hardware and software levels, and exclusively develop and customise real-time dashboards to detect any degradation in services even when there's no technical fault in the network.

With VIVA Bahrain's new Customer Excellence Center operations, services like delays in web browsing or Whatsapp messages, Facebook or Instagram loading and posting time, YouTube start lag and buffering times, will be screened in near real time to keep track of performance levels when fluctuating beyond the defined thresholds. To ensure seamless connectivity and uninterrupted browsing



Ulaiyan Al Wetaid

CEO
VIVA Bahrain



With VIVA Bahrain's new Customer Excellence Center operations, services like delays in web browsing or Whatsapp messages, Facebook or Instagram loading and posting time, YouTube start lag and buffering times, will be screened in near real time to keep track of performance levels when fluctuating beyond the defined thresholds.

of social media services, a team of VIVA CEC engineers and Huawei specialists will be on-site at all times, who will be instantly notified to troubleshoot any issues in coordination with other departments even before it is actually felt by the customer.

Commenting on the new CEC operations, Eng. Ulaiyan Al Wetaid, VIVA Bahrain

CEO said, "The increasing use of digital technology has created a surge in consumer demand and sophistication, requiring continual upgrades of the network systems to deliver a superior customer experience. With the evolving applications and service demands, we are investing heavily in boosting the efficiency of our network operations. The aim is to better synergise our technology backbone with our customer-focused center for effective monitoring, centralised quality control and performance management of our services, to consistently deliver high quality service to customers."

Network enhancement is at the very heart and primary focus of VIVA, with

The increasing use of digital technology has created a surge in consumer demand and sophistication, requiring continual upgrades of the network systems to deliver a superior customer experience.

VIVA achieved another breakthrough of deploying the world's first One Cloud core network, paving the way for a cloud-based future and bringing Bahrain one step closer to implementing the latest generation network.

the telecom operator making advances into latest network services technologies by integrating its IT and service capabilities. Recently, VIVA achieved another breakthrough of deploying the world's first One Cloud core network, paving the way for a cloud-based future and bringing Bahrain one step closer to implementing the latest generation network. Establishing this hybrid-model as a robust foundation to end the long-known technology cycles, this will reduce time to deploy new networking services to support changing customer requirements. 📺



WHOLESALE NEWS

ANCOM Proposes Lowering Number Portability Tariffs

The National Authority for Management and Regulation in Communications (ANCOM) has launched a public consultation, in which it proposes lowering the cost of tariffs that the supplier owes to the donor provider for each ported fixed or mobile phone number. ANCOM

suggests reducing the tariff for each fixed number ported from EUR7.80 (USD9.57) to EUR4.40, a decrease of 44%, while the regulator also proposes dropping the tariff for each mobile number ported by 66%, from a current EUR5.60 to EUR1.90. ANCOM believes that reducing these

costs could stimulate operators to launch more attractive offers for their customers, gain new users and also keep existing subscribers. Interested parties are to make their views known to ANCOM by 22 February when the public consultation will close.

MTR Cut Delivers 'Body Blow' to Idea Top Line

India's third-largest wireless provider by subscribers, Idea Cellular, has recorded year-on-year declines of 24.9% and 44.2% in revenue and EBITDA respectively for the three months ended 31 December 2017, with the operator attributing the setback to a reduction in the mobile termination rate (MTR). Idea claims that the reduction in MTR from INR0.14 (USD0.00219) to INR0.06, which came into effect from 1 October last year, negatively impacted its turnover and EBITDA this quarter to the tune of INR8.2 billion and INR2.3 billion, respectively. The company's total revenue for the period was INR65.1 billion, down from INR86.6 billion twelve months earlier, whilst EBITDA was down to INR12.2 billion from INR21.9 billion

in December 2016. Idea described the MTR change and the planned 43% cut to international terminal charges (due to come into effect from 1 February 2018) as a 'body blow to all operators' that would also reduce investable funds for the government's 'Digital India' program. Idea's consolidated net loss for the period was INR12.8 billion, widening from a loss of INR3.8 billion a year ago. Idea's subscriber base continued to grow, reaching 188.5 million at end-December 2017, from 182.4 million three months earlier and 185.2 million in December 2016, with 34.8 million users signing up to 3G or 4G plans – increasing from 29.1 million in September 2017 and 27.0 million in December 2016. Fierce price

competition in the sector continued to drag down ARPU, however, with the cellco recording blended ARPU of INR114 for the period compared to INR157 a year earlier. Falling prices have led to an increase in consumption for both voice and data services, slowing the ARPU decline somewhat. For voice, average realization per minute nearly halved y-o-y from INR0.407 to INR0.225, but average monthly minutes of use (MOU) per subscriber grew from 385 to 509 over the same period. Similarly, realization per MB of data dropped to INR0.020 from INR0.159, but was partially offset by a spike in average monthly data consumption from 703MB to 4,742MB.

TRAI Lowers International Termination Charge

Sector watchdog the Telecom Regulatory Authority of India (TRAI) has lowered the International Termination Charge (ITC) following consultation with industry stakeholders. The charge, paid by international operators terminating traffic on local Indian networks, was lowered to INR0.30 (USD0.00472) per minute from INR0.53 per minute. The ITC had previously been lowered to INR0.30 in February 2004, but was increased to INR0.40 in April 2009 before rising to INR0.53 from March 2015. The regulator noted that the opinions voiced during the consultation fell into two 'sharply divided' camps, with one seeking an upward revision of ITC and the other requesting that it be lowered to the level of domestic termination charges. The former group claimed that the higher ITC would help providers offer more affordable domestic tariffs as well as increasing revenues for the government. On the other hand, the latter group argued that reducing the charge would help combat the

grey market and shift traffic to international long distance (ILD) carriers from over-the-top (OTT) providers.



ANACOM SET TO REDUCE PORTUGUESE MTRS BY 43%

Portugal's National Communications Authority (Autoridade Nacional de Comunicacoes, ANACOM) has approved a draft decision under which domestic mobile operators will have to lower mobile termination rates (MTRs) to EUR0.0043

(USD0.0053) per minute, which it says corresponds to the wholesale price charged by operators. The new MTRs, which will come into force on 1 July 2018, represent a 43% reduction compared to the current price of EUR0.0075 per minute.

AIS and TOT Sign a Roaming Agreement

Advanced Info Services (AIS) has entered into an eight-year roaming agreement

deal with Thai state-run operator TOT, Reuters writes. AIS will pay up to THB14

billion (USD437 million) a year to utilize 80% of TOT's 2100MHz spectrum for a total bandwidth of 15MHz. In exchange, AIS will lease its 25,000 mobile towers to TOT for THB10 billion a year. TOT president Monchai Noosong said that the deal will help TOT expand its mobile communication network and provide commercial 4G service using TOT's 2100MHz spectrum. Under the deal, Monchai said that his firm will be able to increase the number of subscribers to around two million within three years. The executive added: 'The eight-year agreement will also improve the speed of non-voice communication services and improve the quality of services to customers. TOT will also provide mobile phone services for around one million low-income users.'



Saudi Minister of Telecommunications and IT Directs Mobile Service Providers to Ensure Roaming Services, Network in Remote Areas

Minister of Telecommunications and IT Abdullah bin Amer Al-Sawaha has directed all mobile service providers to ensure the availability of local roaming services and network sharing in remote areas. Al-Sawaha issued the directive based on citizens' requests after his inspection visit to communities in the Hejer region and various governorates across the Kingdom. The minister confirmed that mobile service providers in remote areas must provide local roaming service within a maximum period of 60 days to enable users to obtain coverage in villages, irrespective of the service provider. They are also required to provide quality service to these areas, in addition to continuity of service and easy access to all basic telecommunications

and Internet services. Highlighting a step forward toward plans to expand broadband Internet services to 70 percent of the Kingdom's remote areas by 2020, Al-Sawaha announced the completion of the high-speed home broadband network project for Al-Jumoum district in Makkah region, a ministry statement said. It also marks the digital leap in enhancing e-government services in key sectors such as education and health care. The project is part of the government's efforts to develop a digital infrastructure in villages and contribute to the development of an innovative government in the Kingdom. Moreover, during his visit to Al-Jumuom, Al-Sawaha witnessed the launch of broadband Internet services at speeds of 10 Mbps

in the village of Rahat and Muddrika. Speaking on the occasion, Al-Sawaha said that the ministry is eager to activate partnerships with the private sector to encourage investments in developing the digital infrastructure to ensure the best quality services to members of society. As part of the ministry's efforts to extend seamless connectivity throughout the Kingdom in line with the National Transformation Program and Saudi Vision 2030, communication and Internet services have been provided to more than 4 million residents in over 17,000 communities in the regions of Northern Borders, Jouf, Hail, Tabuk, Qassim, Riyadh, Madinah, Makkah, Eastern Province, Asir, Baha, Najran, and Jazan.

VEON Armenia Extends 4G Roaming to 39 New Countries

VEON Armenia (Beeline) has announced that its mobile customers will now be able to use 4G services in an additional 39 countries, having expanded its roaming agreements with a number of operators. The operator already had 4G roaming in place in Russia, Georgia, Italy, the United States and China, and has now added many more, including in Greece, Cyprus, the UAE,

Egypt, Iran, Austria, France, the Netherlands, Czech Republic, Spain, Germany, Thailand and others. To activate its roaming package, Beeline subscribers can dial a short code number and gain access to voice calls from AMD125 (USD0.265) per minute, AMD125 per SMS and AMD25 for 25MB of data.



MACRA Halves MTRs to USD2

The Malawi Communications Regulatory Authority (MACRA) has initiated a cut in mobile termination rates (MTRs) with the aim of making retail services more affordable for consumers. Nyasa Times quotes the regulator's Director General Godfrey Itaye as saying that on January 1, 2018 the maximum MTR fell from USD4.0 to USD2.0 per minute,

and the rate is scheduled to drop to USD1.2 twelve months later and again to USD0.6 per minute on January 1, 2020. The move follows the completion of a study to develop cost models and pricing for regulated wholesale and retail telecoms services that was carried out in consultation with key industry stakeholders. 'Malawi has

been criticized for so long that it has high rates of making calls compared to other countries ... MACRA has started regulating prices now,' Itaye said, adding that the reductions in MTRs were made possible through recent amendments to the Communications Act.

CNMC Proposes Reduced Price Cap for Telefonica's Wholesale Fiber Service

Spain's National Commission for Markets and Competition (Comision Nacional de los Mercados y la Competencia, CNMC) has approved the calculation methodology used to determine the wholesale prices of Telefonica de Espana's fiber-optic services. In a press release the regulator confirmed that as a result it is now proposing a maximum wholesale price of EUR16.38 (USD19.66) per month for Telefonica's wholesale fiber offering, lower than the EUR17.52 it had initially proposed in a previous public consultation, and representing an almost 18% reduction from the current cap of EUR19.93. According to the CNMC, it has now notified both the EC and the relevant local

ministries of its provisional decision, with these bodies now having one month to make comments on the plans. Following this period, the CNMC expects to issue a final ruling regarding the matter. Under existing wholesale regulations, Telefonica de Espana, which offers services under the Movistar banner, is required to offer access to alternative operators to its fiber-optic infrastructure in all but the 66 most competitive municipalities in Spain. Further, while the existing legislation does allow the telco to set its own wholesale prices, its charges must allow alternative operators to offer retail products with 'similar characteristics and prices' to those marketed by Movistar itself.

Russian Operators to Drop National Roaming Charges in H1



The Russian federal Ministry of Communications and Mass Media has carried out a joint meeting on discontinuing national roaming services with federal competition watchdog FAS and major mobile operators. During the meeting, it was stated that major mobile operators have already started introducing tariffs according to plans to stop national roaming charges, and discontinuing national roaming services in Russia should be possible in the first half of this year.



For illustration purposes only

Proving scientific predictions can take centuries of trial and error



Exploration never stops at failure

Perseverance enables the commitment to build
the foundation for future technology



ARTICLE

The ICT Skill Competition: Developing Skills for Digitalization



Charles Yang
President
Huawei Middle East



After five months of grueling competition for the Middle East's most promising students, the 2017 ICT Skill Competition has concluded.

It has been a long journey. Since the competition opened in August, over 10,285 students representing 121 educational institutions across 10 countries signed up for the event. Participants competed in real laboratory environments, where they tackled some of the industry's most complex challenges in cloud computing, switching, routing, and other key ICT solutions and technologies.

The purpose of the ICT Skill Competition is to act as a bridge between the classroom and the workforce. For this reason we ensured that competitors had the opportunity to be exposed to Huawei's team of global experts through a multitude of workshops during their time in Shenzhen.

Every student who participated has demonstrated passion and potential in the field of ICT. It was inspiring to see the future engineers and scientists of the Middle East devote themselves tirelessly to tackling the most intractable challenges in this cutting-edge field. The strength and discipline competitors built during the length of this journey will surely serve them as well as the technical skills they developed and the awards and recognition they received. The ICT Skill Competition has reaffirmed my belief that the Middle East has all the raw talent it needs to succeed in its digital transformation journey.

I had the pleasure of personally meeting the winning competitors in Shenzhen, China, where the finals took place. The top team was awarded USD 30,000 in cash prize, while the runner-ups received Excellence Prizes, and tutors and academies were recognized with Excellent Tutor and Excellent Academy Prizes.

The purpose of the ICT Skill Competition is to act as a bridge between the classroom and the workforce. For this reason we ensured that competitors had the opportunity to be exposed to Huawei's team of global experts through a multitude of workshops during their time in Shenzhen. These include a Students Exhibition visit, a Future Tech workshop, and a visit to one of China's top-ranked Universities, as well as seminars for the professors accompanying them. Competitors also had the chance to visit China's cultural sites, notably a trip to the UNESCO office, and learn about China's ancient history and tradition.

At Huawei, we recognize that investing in human capital is as important as investing in innovation and technology in order to achieve digital transformation.

The team that placed first is from Lebanese University, and their months of hard work and dedication were recognized in a beautiful ceremony presided by Her Excellency Millia Jabbour, Lebanese Ambassador to China. Senior Huawei executives, representatives from participating countries' embassies and consulates, and other high-level government executives also attended the ceremony to offer students their congratulations and discuss how Huawei and Middle East countries can continue to collaborate to further the progress of digitalization.

At Huawei, we recognize that investing in human capital is as important as investing in innovation and technology in order to achieve digital transformation. A technologically advanced workforce is a key factor in advancing government agendas for national development in the Middle East. It is a driving force behind the educational initiatives we have implemented globally, and regionally.

Huawei will be there every step of the way, working alongside government organizations, partners, and customers to Build A Better Connected World.

Through partnerships with universities, internship programs, and the ICT Skill Competition, we hope to prepare the youth of today for the challenges of tomorrow.

The Competition has now concluded, but the hard work is only beginning. Competitors have returned to the Middle East, where the skills and knowledge they developed over the past months will serve them well as they play an integral role in the development of their nations. Huawei will be there every step of the way, working alongside government organizations, partners, and customers to Build A Better Connected World. 



TECHNOLOGY NEWS

Deutsche Telekom, Intel and Huawei Complete World's First 5G NR Interoperability Test

The collaboration has been hailed as an important step on the road towards commercial rollout of 5G. Deutsche Telekom has joined forces with Intel and Huawei to conduct the world's first 5G interoperability and development testing (IODT) based on the 3GPP R15 Standard with a commercial base station. The tests utilized Huawei's 5G commercial base station combined with Intel's third generation 5G NR Mobile Trial Platform (MTP). "After delivering leading contributions to the 3GPP's work on 5G standards, Deutsche Telekom, Huawei and Intel moved swiftly to jointly verify implementation progress through standards-based interoperability testing. The success of our test is a significant step on the path to 5G ecosystem maturity and early 5G commercialization," Arash Ashouriha, senior vice president of technology innovation at Deutsche Telekom said. Using Huawei's commercial NR base station and the Intel 5G NR Mobile Trial Platform, the three parties have jointly verified the fundamentals of the new 5G 3GPP NR standard, including new

synchronization, coding, frame structure, and numerology components underlying the interconnection of the NR-compliant terminal and network. "The success of this testing shows that Huawei and all parties have devoted themselves deeply to the new NR standard. As the standard continues to be updated, Huawei will continue to work with all parties to step

up interoperability test and promote the 5G industry maturity process, and to welcome the arrival of the entire industry digitization," said Yang Chaobin, president of Huawei's 5G product line. The three parties hailed the success of the testing as an important step towards the commercial rollout of 5G services.



With WPA3, Wi-Fi Security is About to Get a Lot Tougher Finally, a Security Reprieve for Open Wi-Fi Hotspot Users.

The Wi-Fi Alliance, an industry body made up of device makers including Apple, Microsoft, and Qualcomm, announced Monday its next-generation wireless network security standard, WPA3. The standard will replace WPA2, a near-two decades-old security protocol that's built in to protect almost every wireless device today -- including phones, laptops, and the Internet of Things. One of the key improvements in WPA3 will aim to solve a common security problem: open Wi-Fi networks. Seen in coffee shops and airports, open Wi-Fi networks are convenient but unencrypted, allowing anyone on the same network to intercept

data sent from other devices. WPA3 employs individualized data encryption, which scramble the connection between each device on the network and the router, ensuring secrets are kept safe and sites that you visit haven't been manipulated. Another key improvement in WPA3 will protect against brute-force dictionary attacks, making it tougher for attackers near your Wi-Fi network to guess a list of possible passwords. The new wireless security protocol will also block an attacker after too many failed password guesses. WPA2, the current incarnation of the wireless security standard since 2004, uses a four-way handshake to

securely allow new devices with a pre-shared password to join a network. The newer WPA3 will use a newer kind of handshake, Mathy Vanhoef, a computer security academic, told ZDNet, which will "not be vulnerable to dictionary attacks." A new wireless security standard can't come soon enough. A few months ago Wi-Fi security was under scrutiny amid a security vulnerability in WPA2, discovered by Vanhoef, which put every WPA2-compatible device -- including routers, phones, and computers -- at risk of hijack. The new WPA3 security standard is expected to land in devices later this year.

IBM, Dutech to Launch Cloud-Based Recovery Service

IBM and Dubai's Port, Customs and Free Zone Corporation (PCFC) have signed an agreement to start a cloud-based disaster recovery service in Dubai, UAE. Furthermore, PCFC is a leading global trade and logistics enabler. It is a Government of Dubai corporation which facilitates the advancement of trade and logistics in Dubai. According to the agreement, IBM will deploy an IBM Cloud-based Disaster Recovery as a service (DRaaS) solution at Dutech's data center. The new service will offer cloud-based business endurance abilities to the organizations in Dubai. This new service also have capability to store its data in-country. It will also enable PCFC, other government agencies and private businesses in UAE to get advantage from a cloud-based disaster recovery as a service. Sultan bin Sulayem, DP World Group chairman and CEO and chairman of PCFC, said: IT disruptions are inevitable and they can stem from a number of sources. Whether it's natural disaster, human error or unplanned downtime or outage, all these risks are surrounding businesses today. He further added that: The new service that we are launching in collaboration with IBM can protect organizations from considerable financial loss as well as irreparable

damage from brand reputation. It's very important to keep abreast of technological advancements in order not only to survive but to thrive. He said: We are embracing this service to sustain and protect the data of our clients and to help other organizations do the same in fulfilment of UAE leading and ambitious plans. Juma Al Ghaith, executive director of customs development division at Dubai Customs, said: It is important for organizations to always stay one step ahead of any potential internal or external threats. Through the new service, organizations will benefit

from faster detection and removal of vulnerabilities as well as speedier data recovery and reduced downtime. Amr Refaat, general manager, IBM Middle East and Pakistan, said: In today's 'always-on' world, our offerings like DRaaS and Cloud Resiliency Orchestration are built to simplify the disaster recovery process. This new service underscores IBM's expanding business continuity and resiliency services portfolio. The new service will offer the replication of critical applications, infrastructure, data and systems to the IBM Cloud-based DRaaS environment.



Data Takes the Crown as a Top 2018 Digital Trend

As we embark on a New Year, Pilira Mwambala, Operations Director at Mark1, a digital media execution business shares the top digital trends for 2018 and beyond. According to Mwambala there has been an upsurge in disruptive digital technology and innovations like Virtual Reality (VR), Augmented Reality (AR), Artificial Intelligence (AI), chatbots, blockchain, native ads, wearable technology and many others. "We've witnessed the mobile device continue to give birth to a wide variety of key developments which allow consumers faster access to the world of convenience. We're living in a data-driven world and data will not just be a trend for 2018 but the core of all things digital and online," he says. He notes that today's online advertisers are willing to pay top dollar for audience data that yields optimal return on investment (ROI) for their brand. Yet on the flip side,

media owners are investing in both the technology and the people who can mine massive amounts of data and segment this into "off-the-shelf" commodities that can benefit advertisers with large wallets. While players within the complex and dynamic digital marketing ecosystem strive to connect the puzzle pieces; consumers continue to generate, access and share massive volumes of online data. Online information, entertainment and education is available at the touch of a button. In the pursuit of unlocking the online marketing mix, Mwambala says online marketers have seen that data leads to understanding patterns within user behaviour. The shapeshifting trend in online data stems from huge volumes of data that arise from free online apps such as Facebook, WhatsApp, Instagram, Twitter, Skype, Google (Gmail, YouTube, Google Maps), and so much more. He

says data from the Winterberry Group, the IAB and the DMA shows that in 2017, US marketers alone would've spent around \$10 billion on 3rdparty data. Another \$10.13 billion will additionally be spent by US marketers on activation efforts to yield practical ROI from data insights. Overall, the digital ad industry worldwide is booming and digital ad spending is increasing. In June 2017, IAB UK reported that the UK digital advertising market was worth £5.56 billion. Q1 of 2017 marked the highest ever Q1 earnings for digital advertising in the US, hitting \$19.6 billion, according to IAB's Internet Advertising Revenue Report. South Africa also witnessed a healthy growth of digital ad spending to the value of R3.95 billion with mobile, social media and paid search being key contributors.

Milton Keynes Revealed as First Town to Receive Gigabit Fiber from Vodafone and CityFibre

Vodafone and CityFibre have announced that Milton Keynes will be the first UK town to receive its gigabit capable, fibre to the home (FTTH) services. The project will see CityFibre invest £40 million in broadband infrastructure in Milton Keynes. "We are delighted that Milton Keynes has been selected as the first city in this full fibre roll-out by Vodafone and CityFibre. As a modern city that prides itself on its smart city ambitions and projects, we are perfectly positioned to make the most of this major private investment in our digital infrastructure. We know that the city will get behind this project to ensure that every home and business unlocks their digital potential," said Cllr Peter Marland, leader at Milton Keynes Council. Milton Keynes is the first of 12 cities that have been earmarked to receive gigabit capable fiber broadband from the Vodafone / CityFibre partnership. The pair revealed in November that they will be spending £500 million to bring fiber broadband services to 1 million people across 12 towns and cities in the UK. The transformative potential of gigabit

capable broadband on the local economy of Milton Keynes is significant. "By using fiber-optic cables for every stage of the connection from the customer's home to the Internet, Vodafone will be able to provide residents of Milton Keynes with extremely fast and reliable broadband services capable of Gigabit speeds (1,000 mbps). At that speed, hospitals will be able to download a 2 gigabyte CT scan in just 17 seconds instead of 11 minutes over a standard broadband connection and film fans will be able to download the latest 25 gigabyte Ultra-HD blockbuster in 8.5 minutes instead of 6 hours," read a statement from Vodafone. Vodafone and CityFibre have yet to reveal the locations of the other 11 cities that will be selected to receive ultrafast broadband services. In their 2017 manifesto, the UK government pledged to connect 10 million premises to FTTH networks by 2022. The Vodafone and CityFibre initiative will deliver 5 million of these connections by the time phase 2 of the project is complete. "The partnership between Vodafone and CityFibre aims to tackle the huge problem

the UK faces in terms of digital inadequacy and will help fulfil our vision of a Gigabit Britain. We are at the early stages of creating the Gigabit fiber network that the UK needs and deserves, and with the announcement of Milton Keynes as our first project we are well on our way to making this vision a reality. Full speed ahead," said Greg Mesch, chief executive at CityFibre. FTTH services are currently only available to around 3% of the UK population. The role that altnets and traditional network operators can play in boosting this figure will be a key area of focus at the forthcoming Connected Britain 2018 event. Held in London from the 19-20 June, Connected Britain will showcase the industry's most influential players through a meticulously planned conference agenda. Greg Mesch, chief executive of CityFibre will be attending the event and will be taking part in a lively panel session entitled 'Next steps: How can we accelerate investment in high-capacity networks across the UK?'

5G Mobile Networks to be Available in Malaysia in 5 Years

Telecommunication companies must be ready to embrace the fifth generation mobile network (5G) as it is expected to be used widely in Malaysia by 2022-2023. Ericsson (Malaysia) Sdn Bhd President Todd Ashton, however, said the use of 5G in the country could be implemented less than five years if the groundwork is done now. "The spectrum for 5G will be agreed globally in 2019 and the whole industry will need to create products once it has been agreed upon," said Ashton, who is also the company president for Sri Lanka and Bangladesh, at a press conference. The South Korean Winter Olympics, scheduled to take place from Feb 9-25, 2018 in Pyeongchang County, South Korea, is one venue where the benchmark 5G would be tested. However, Ashton said that it would take some years before the 5G becomes a mainstream in Malaysia as the infrastructure would need time to be put in place. Ericsson has been collaborating with Universiti Teknologi

Malaysia since 2016 and Celcom Axiata Bhd, from last year, to conduct ground studies on the implementation of 5G. "The studies conducted so far include the propagation of radio in tropical climate, the millimeter wave and spectrum that will be used for 5G and how 5G will work in Malaysia," he said. Meanwhile, Ericsson also announced the extension of its partnership, originally signed in 2012, with U-Mobile Sdn Bhd for five years to 2022. The renewed partnership would focus on delivering technology and innovation, upgrading its services and forming new packages for U Mobile's customers. At present, Ericsson handled over five million prepaid and postpaid subscribers in managing the business support system for U Mobile. "With this partnership, we will also continue to support U-Mobile's billing system," he said. Meanwhile, U-Mobile Chief Executive Officer Wong Heang Tuck said that the company's e-wallet service was



awaiting Bank Negara Malaysia approval. "We expect to get the approval soon and hope to launch the e-wallet service by this year," he said. E-wallet refers to an electronic device that allows an individual to make electronic transactions while purchasing items online or by using a smartphone to purchase products at a store.

How Cisco's Newest Security Tool Can Detect Malware in Encrypted Traffic

Cisco's Encrypted Traffic Analytics (ETA), a software platform that monitors network packet metadata to detect malicious traffic, even if its encrypted, is now generally available. The company initially launched ETA in June, 2017 during the launch of its intent-based network strategy and it's been in a private preview since then. Today Cisco rolled ETA out beyond just the enterprises switches it was originally designed for and made it available on current and previous generation data center network hardware too. Cisco's Encrypted Traffic Analytics uses a software named Stealthwatch to compare the metadata of benign and malicious network packets to identified malicious traffic, even if its encrypted.

What ETA is

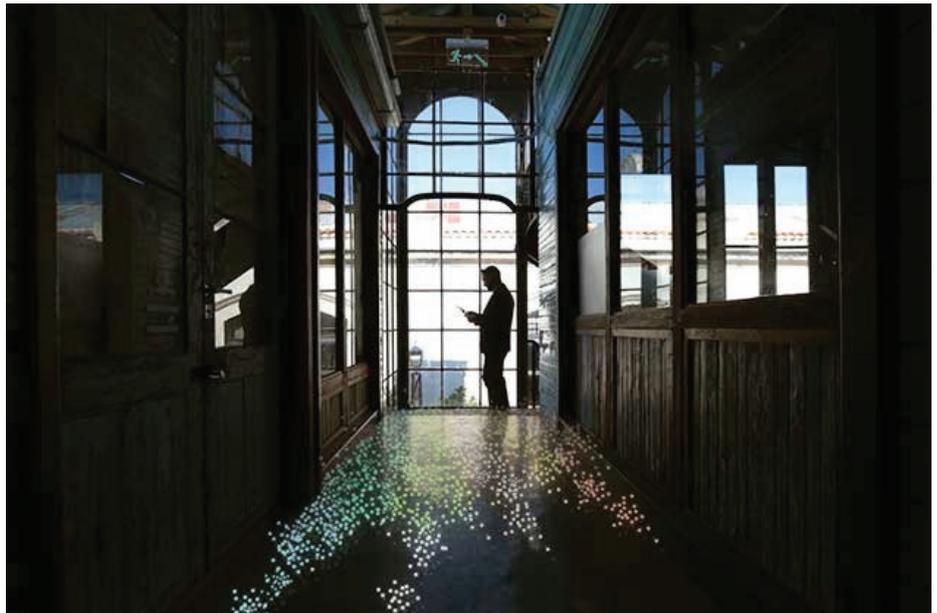
Encrypted Traffic Analytics is a product deployed on customers' premises that monitors their network and collects information about traffic flows. It uses a series of sensors placed throughout the network to screen all traffic traversing through it. ETA uses a combination of local analysis engines combined with a cloud-based platform that analyzes anonymized metadata about network traffic to search for and block malicious traffic, even if it's encrypted. Cisco launched ETA during its intent based networking (IBN) strategy rollout because it uses some of the advanced software the company developed for IBN, including machine learning components that evolve to protect against changing vulnerabilities.

How ETA works

ETA collects metadata about traffic flows using a modified version of NetFlow and searches for characteristics that indicate the traffic could be malicious. It inspects the initial data packet, which is translated in the clear, even in encrypted traffic. It also records the size, shape and sequence of packets, how long they take to traverse the network, and it monitors for other suspicious characteristics such as a self-signed certificate, or whether it has command-and-control identifiers on it. All of this data can be collected on traffic, even if its encrypted. "ETA uses network visibility and multi-layer machine learning to look for observable differences between benign and malware traffic,"

Cisco explains in a blog post announcing ETA. If characteristics of malicious traffic are identified in any packets, they are flagged for further analysis through deep packet inspection and potential blocking by an existing security appliance like a firewall. ETA's monitoring system is named StealthWatch and the cloud-based data store is named Talos. Meanwhile, if traffic is identified as malicious, ETA can report it to Cisco's DNA Center network management software to ensure that traffic is blocked throughout the entire network. Cisco says its using machine learning algorithms to train ETA to search for new vulnerabilities and adapt to changing ones. "When you're doing security, the more visibility the better," explains Scott Harrell, Cisco senior vice president and general manager of enterprise networking. "You want to have

use encryption to evade detection, Cisco says. Organizations use a range of options for ensuring the security of encrypted traffic in their networks. Most of these approaches use next-generation firewalls, deep packet inspection (DPI) or Secure Socket Layer (SSL) inspection. Harrell says these tools require some sort of tradeoff though. SSL inspection, for example, intercepts and decrypts traffic to determine if it is malicious and only after it's confirmed to be safe will complete the connection. Malware can infect that SSL inspection, leaving it vulnerable. Harrell argues that its inefficient to decrypt all traffic, then re-encrypt it before allowing users to access it. Cisco says it is the first company to have developed a way to monitor encrypted traffic for vulnerabilities.



a huge wealth of data, not just about what's happening in real-time, but what's happened historically. A lot of times in security, there is smoke before you know there is fire." If potentially malicious traffic has been identified, information such as which host initiated the conversation and what information was exchanged are important to determine the scope of a problem, Harrell says.

Why ETA could be a big deal

More and more traffic is encrypted. Cisco estimates 55% of traffic on the web is encrypted now, a figure that Gartner predicts will grow to 80% by 2019. Meanwhile, up to 41% of hackers

IoT security

Harrell says ETA could be important in the world of IoT, too. ETA's ability to monitor encrypted traffic's metadata means it could analyze all IoT traffic without necessarily needing to put security tools like firewalls on each of the small-form-factor IoT devices. Cisco says ETA has another benefit: cryptographic compliance. Some organizations are required to use certain levels of encryption for regulatory reasons. ETA, through its use of analysis metadata, can provide proof of certain levels and types of encryption being used.

Turkcell Tests Huawei's LTE Spectrum Coordination Solution

Turkcell and Huawei completed what they claim as the world's first LTE Spectrum coordination on Antalya's commercial 4.5G network with Huawei's latest eRAN13.1 solution. As one of the most important technologies of the TechCity 2.0 project in Turkey, this solution enables coordination between high and low LTE bands to realize channel selection based on a user's experience and maximize user throughput. The deployment of high frequency bands has been facing

huge challenges. Uplink coverage pales in comparison to downlink coverage due to the inherent characteristics of these bands and limited transmit power of terminal devices. As a result, high bands fail to deliver an excellent cell-edge user experience and rich spectrum resources cannot be fully leveraged. LTE Spectrum Coordination can effectively improve user experience at the cell edges. In this test, the downlink channel is always hosted by both high and low bands, while a UE

can select either high or low bands as a suitable uplink channel to obtain a high data rate and an excellent experience. A UE located in the center of the cell selects high bands as an uplink channel, whereas a UE located at the edge of the cell selects low bands for better uplink coverage. According to test results, the downlink data rate increased by over 30% at cell edges, claims Huawei.

Telefonica Initiates 5G Pilots in Two Spanish Cities

Spanish telecoms giant Telefonica has unveiled its '5G Technological Cities' project, which will convert the cities of Segovia and Talavera de la Reina into

5G 'living laboratories' between now and 2020. These cities are expected to benefit from the first wave of 5G network capacity, and the development of use

cases allowing citizens and companies to experience the advantages of the new technology. In order to facilitate the project, Telefonica has inked partnerships with vendor duo Nokia (in Segovia) and Ericsson (in Talavera de la Reina). As previously reported by TeleGeography's CommsUpdate, in December last year Spain's Ministry of Energy, Tourism and Digital Agenda (Ministerio de Energia, Turismo y Agenda Digital, MINETAD) announced plans to 'promote the development and deployment of 5G technology' via the auction of spectrum in the 1452MHz-1492MHz ('1.5GHz') and 3600MHz-3800MHz ('3.6GHz') bands in early 2018. The auction process will form part of the government's 'Plan Nacional 5G', and is said to be 'fully compatible' with the EU's roadmap for the deployment of 5G networks.



AT&T to Launch 'Mobile 5G' in 2018; Verizon Inks Samsung FWA 5G Deal

AT&T Mobility has unveiled plans to introduce 'mobile 5G' services in twelve markets by late 2018. The telco notes that the accelerated launch timeline is a result of industry standards body 3GPP successfully completing what it described as 'the first implementable 5G New Radio (NR) specification' in December 2017. While AT&T stopped short of naming the markets in question, it seems likely that there will be a significant overlap with its previously announced '5G Evolution' footprint, which encompasses: Atlanta, Austin, Boston, Bridgeport, Buffalo, Chicago, Fresno, Greenville, Hartford,

Houston, Indianapolis, Los Angeles, Louisville, Memphis, Nashville, New Orleans, Oklahoma City, Pittsburgh, San Antonio, San Diego, San Francisco, Tulsa and Sacramento. (Note: AT&T currently offers carrier aggregation [CA], 4x4 MIMO and 256 QAM technology in these markets.) In other US 5G news, Verizon Communications has selected Samsung Electronics America to supply it with commercial 5G fixed wireless access (FWA) network solutions. The two companies will begin by launching commercial 5G services in Sacramento, California in the second half of 2018.

Last year, Samsung and Verizon began 5G customer trials across seven US cities in early 2017, and have successfully tested and verified 5G performance using mmWave frequencies to provide FWA pre-commercial services. These trials were conducted in California, Georgia, New Jersey, Massachusetts, Michigan, Texas, and Washington DC. Finally, T-Mobile US, Nokia and Intel have brought a 28GHz outdoor 5G commercial radio system on air in the busy downtown corridor of Bellevue in Washington State. The trial utilised Nokia's AirScale solution and the 5G Mobile Trial Platform (MTP) from Intel.

South Korean Government Urges Closer Collaboration to Speed up 5G

South Korea routinely tops the global league tables for both download speeds and network availability. The South Korean government has urged network operators and carriers to speed up the deployment of 5G technology in the country by utilizing closer collaboration. "Mobile carriers should actively share their infrastructure to lower each other's burden on new investment and to accelerate [5G development]," said South Korea's Minister of Science and ICT, Yoo Young-min. Speaking at a meeting with the heads of Korea's telcos, Yoo Young-min called on KT, who own the majority of Korea's telecoms infrastructure, to heed this call. "We especially ask for KT's help in opening up core landline infrastructure such as utility poles and cable ducts." According to a report published in the Korea JoongAng Daily newspaper, KT owns over 72% of the cable ducts in Korea. South Korea is routinely at the top of the global league tables for download speeds and network availability. A recent report by OpenSignal showed that South



Korea was the best country in the world for 4G availability, with residents in the country being able to access a 4G signal 96.69% of the time. Customers on South Korea's 4G networks average download speeds of 45.85Mbps. The South Korean

government has publicly stated that it aims to roll out its first commercial 5G services by March 2019, with full coverage across the entire country expected no later than 2022.

Nokia to Test 28GHz Commercial Radio System with T-Mobile

Nokia, Intel and US cellular operator T-Mobile tested 28 GHz outside commercial radio system. The companies conducted this test in the downtown corridor Bellevue in Washington State. All the three companies shown the data session in a field test situation. They uses Nokia's 5G commercial air scale system in the test. They also used Intel's 5G Mobile

Trial Platform (MTP) in the test. The use of these equipment will enable T-Mobile to implement its first fastest 5G networks. According to Nokia, this test is the first step to enhance and develop 5G networks. This development will be forwarded from labs into the field. It will enable 5G mm Wave performance expansion in the real world environment. This test will help US

cellular operator and Nokia to understand the integration of mmWave based 5G with existing network. This will also allow them to understand the process of expansion with LTE. Furthermore, Nokia will present this demonstration in Mobile World Congress 2018 in Barcelona, from February 26 to March 1.

ZTE Plans to Launch 5G Smartphone by Early 2019



ZTE, a China-based equipment manufacturer, plans to launch its first 5G smartphone by early 2019. ZTE Plans to launch 5G Smartphone by Early 2019 According to Lixin Cheng, Chief Executive Officer of ZTE's mobile business, plan of launching 5G smartphone could change based on the availability of 5G networks. The plan is also based on the supply of compatible chipsets. With this statement, he also added that a 5G tablet or home

internet hub were possibilities, too. Additionally, many cellular operators in the US have talked about the probability of installing fixed wireless 5G in several states, and it isn't unreasonable to expect ZTE to produce customer-premise equipment as well. Furthermore, ZTE is a major force in the telecommunications sector. It has been an active participant in the 5G standards deliberation process.

A1 and Nokia Achieve 1.5Gbps Mobile Data Rates

A1, the domestic fixed and mobile unit of A1 Telekom Austria Group, has demonstrated mobile data rates of 1.5Gbps in cooperation with equipment vendor Nokia. A1 achieved the speeds through five-band carrier aggregation

(5C) using spectrum in the 2600MHz, 1800MHz, 800MHz and 2100MHz bands, combined with MIMO and 256QAM. 'Multiple carrier aggregation is already being used by A1 in Austria. As soon as enough devices support this technology

combination, we will continue to roll it out for our customers in urban, high-capacity areas,' commented A1's CEO Marcus Grausam.

Verizon, Ericsson, Qualcomm Complete FDD Massive MIMO Trial

Verizon, Ericsson and Qualcomm Technologies have confirmed that they successfully completed an FDD Massive MIMO trial with a fully compatible customer device in late-December 2017. This achievement builds on the telco's previous deployment of FDD Massive

MIMO in Irvine, California, in October last year. In the latest trial, the three companies used Ericsson Massive MIMO software and hardware on Verizon's network, along with a mobile test device powered by the Qualcomm Snapdragon 845 Mobile Platform with X20 LTE using

TM9 (Transmission Mode 9). TM9 is an enhancement for consumer devices that will make them fully compatible with Massive MIMO, enabling a better end-user experience.

China Dominating Global IoT Connections

China's mobile operators continued to dominate the rapidly expanding global IoT market, accounting for 46 per cent of cellular IoT connections in Q3 2017, Counterpoint Research reported. The world's leading operator in terms of IoT connections was China Mobile with a 32 per cent share in the quarter (see chart below, click to enlarge). The operator's connections grew 106 per cent year-on-year as it is quickly transitioning to LTE IoT connections and is aggressively rolling out an NB-IoT network to take advantage of emerging IoT opportunities, Counterpoint Research said. China Unicom expanded IoT connections 39 per cent from Q3 2016 and had a 9.4 per cent market share in Q3 2017; rival China Telecom recorded 17 per cent year-on-year growth to hold a 5 per cent share. Overall, the three increased IoT connections by 75 per cent year-on-year. The research company said worldwide cellular IoT connections increased 41 per cent year-on-year in Q3 2017 after crossing the half-billion mark earlier in the year. At end-Q3, LTE connections accounted for more than half of cellular IoT connections and registered 84 per cent year-on-year growth. Research director Peter Richardson noted cellular IoT connectivity had been modest so far, but expects half a billion connections to be added by 2020. Connections in Asia grew 64.2 per cent year-on-year in Q3, with the region having a 57.2 per cent share of global IoT connections. China accounts for 81 per cent of Asian connections. IoT connections in Japan and South Korea grew 15 per cent and 25 per cent year-on-year respectively; Japan held a 5 per cent

share of total Asia connections; South Korea 2 per cent. In terms of low power wide area (LPWA) development, South Korea is ahead of Japan. SK Telecom, LG Uplus and KT commercialized their NB-IoT services in Q3 2017, Counterpoint Research said. KT also launched LTE-M in Q2 2017. Outside China, Vodafone leads in cellular IoT connectivity globally posting 37 per cent year-on-year growth and holding the second position with a 10.9 per cent share. As of Q3 2017, Vodafone had launched NB-IoT in four countries including the Netherlands, Republic of Ireland, Czech Republic and Spain. The operator added commercial NB-IoT networks in Turkey and Australia in early Q4. 





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REGULATORY NEWS

Italian 3.6GHz Licensees Want Spectrum Until 2029

Wireless broadband licensees in Italy have requested an extension of their 3.6GHz concessions by six years to end-2029. Regional spectrum licenses in the 3400MHz-3600MHz band were awarded in 2007 and are used by Linkem, Tiscali, TIM, GO internet and Mandarin to offer

fixed-wireless and TD-LTE services. CorCom reports that regulator Agcom is opening a consultation on a plan which would reduce each operator's holding from 42MHz to 40MHz; the freed frequencies would be combined with a 74MHz block of spectrum currently held

by Italy's Defense Ministry to create a contiguous 80MHz nationwide block which could be made available for future 5G services. Agcom says fees for the license extensions should be equivalent to those paid when the 80MHz block is offered at auction.

MNP a Priority for Zimbabwe

The Postal and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ) says it is still looking to introduce mobile number portability (MNP), with the project one of its 'top priorities'. Bulawayo 24 reports that

MNP should be launched within a year, allowing customers to switch their service provider while retaining their own phone number. The government first announced plans for MNP in 2013 but its implementation has been hit by a series

of delays. The wireless market is served by three players: privately-owned Econet and state-backed firms NetOne and Telecel.

Net Neutrality Law, Not An Urgent Need: NTA

Though Nepal Telecom Authority (NTA) is drafting a regulation for 'net neutrality', a senior official of the telecommunication sector regulator said that the regulation is not an urgent need. "There is no urgent need of net neutrality regulation in the country at this time," said Ananda Raj Khanal, a senior director of NTA and chairman of the committee. "Why would we need a regulation on the topic about which a very few people know?" "This is not an urgent issue because nobody has died because of it," said Khanal. "We might not even need a regulation for the issue as far as I have seen. This is because any activity planned by ISPs ultimately needs to be approved by our office" NTA had earlier formed a committee to draft a report on net neutrality based on discussion with experts. The committee prepared a report based on consultation with information technology (IT) experts, Khanal said. The report is yet to get final shape, he added. 'Net Neutrality' refers to a concept that Internet Service Providers (ISPs) must treat all data on the Internet equally, and not charge differently by user,

content, website, or application. It means that the recent 'free Facebook', 'free Twitter', and 'free Wikipedia' schemes of Ncell, an internet giant in the country, were violations of the sentiments of 'Net Neutrality' since they promoted those websites despite the existence of other similar players in the market. Defending such free schemes, Khanal said: "They are the concerned operators' business matters. One cannot say that a single site was promoted in that case." Khanal further added that the scheme of making such sites free or cheaper is okay since many people use them. The official also said that such schemes would not affect other startups of similar type. Similarly, there is no standard ceiling rate of Internet in the country, according to the NTA. This means operators like Nepal Telecom (NTC) and Ncell, and ISPs like WorldLink or Subisu can charge as much as they choose for data. Variable charges in the names of packs like 'Facebook pack', 'YouTube pack', etc are also violation of 'Net Neutrality' concept since they treat browsing of those sites and other sites

differently. Moreover, it biases customers too: those who do not take such Internet packs have to pay more for using those sites. There are various other ways net neutrality could have been violated in the country. But NTA's reluctance to brainstorm about them has put Nepali Internet users in trouble. The concept of net neutrality is among hot issues in the world. However, authorities here have given little value to it. It is clear that the issue is associated with more than 150 million Internet users in the country. IT experts in the country have long been demanding for net neutrality policy. "Net neutrality is about transparency and freedom in the Internet," said Rajan Raj Panta, an IT specialist. "Concerned authorities should be clear about to what extent Internet needs to be censored as well as free in the country. So, a regulatory policy regarding it is the need of the hour." Experts also say that net neutrality policy would control ISPs from abusing Internet for their own benefits.

NCLT Clears Airtel/Telenor Tie-Up

The planned merger of wireless market leader Bharti Airtel and Norwegian-owned cellco Telenor India has been approved by the National Company Law Tribunal (NCLT) after the Department of Telecommunications (DoT) did not raise objections to the deal. The Economic Times writes, however, that the DoT notified Airtel that it would be required to

submit bank guarantees totaling around INR17 billion (USD266 million) to the government for spectrum payments. As previously reported by TeleGeography's CommsUpdate, the duo signed an agreement in February last year under which Airtel would acquire all of Telenor's spectrum, licenses, infrastructure and customers, whilst Airtel would take

on Telenor's outstanding spectrum payments and operational contracts. The deal received approvals from antitrust watchdog the Competition Commission of India (CCI), as well as the Securities and Exchange Board of India (SEBI), the Bombay Stock Exchange (BSE) and the National Stock Exchange of India (NSE) in mid-2017.

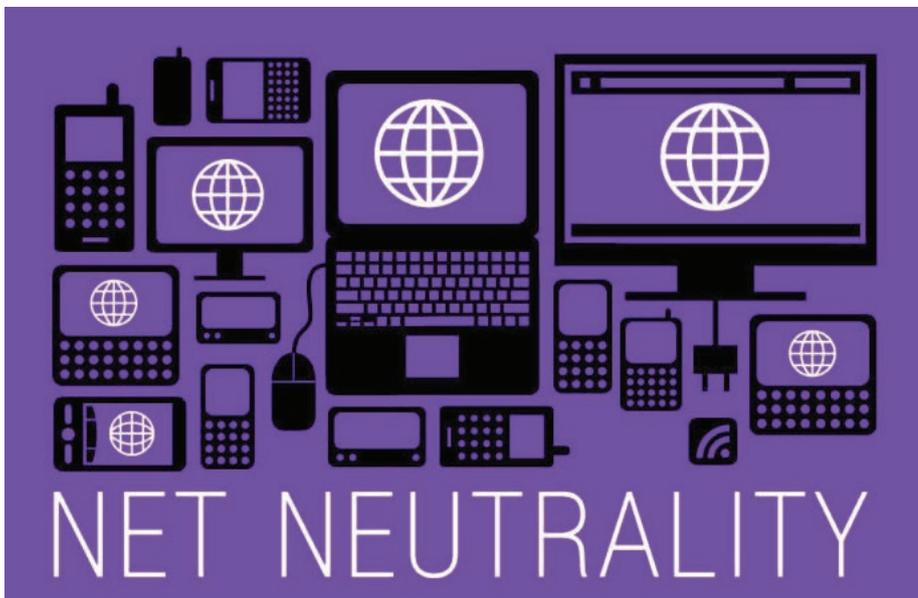
ANRCETI Adopts New Authorization and Licensing Regime

Moldova's National Regulatory Agency for Electronic Communications and Information Technology (Agentia Nationala pentru Reglementare in Comunicatii Electronice si Tehnologia Informatiei, ANRCETI) of Moldova has revealed that its Decision No.54 (28 December 2017) on the general authorization regime for electronic

communications has entered into force. Under the new legislation, the ANRCETI simplified and updated the notification form and the nomenclature of the types of electronic communications networks and services subject to general authorization. In addition, the regulator also approved the standard forms of the applications for obtaining or extending licenses for the

use of radio frequencies and of similar applications for the use of numbering resources for providing electronic communications networks/services. Following the adoption of Decision No.54, the Electronic Communications Law No. 241-XVI of 15 November 2017 was also amended (to be known as Law No.241/2007).

22 Attorneys General Move to Clock FCC Net Neutrality Rollback



22 Attorneys General have filed a lawsuit challenging the decision by the Federal Communications Commission (FCC) to repeal so-called 'Net Neutrality' rules, in what has become the first high-profile attempt to block the controversial plan.

Led by New York Attorney General Eric Schneiderman, the petition – which has been brought in front of the US Court of Appeals for the DC Circuit – asks the court to find that the FCC's plan contravenes federal law. Schneiderman's

statement announcing the suit, filed on behalf of 21 states and the District of Columbia argued: 'An open internet – and the free exchange of ideas it allows – is critical to our democratic process. The repeal of Net Neutrality would turn ISPs into gatekeepers – allowing them to put profits over consumers while controlling what we see, what we do, and what we say online.' As previously reported by TeleGeography's CommsUpdate, on December 14, 2017 the FCC voted in favor of repealing Net Neutrality rules. The plan, which was pushed through via FCC chairman Ajit Pai's 'Restoring Internet Freedom Order', was approved following a 3-2 vote – split along Republican-Democrat party lines. The divisive move has generated widespread protests from defenders of the Obama-era rules. Net Neutrality is the principle that ISPs must treat all data on the internet equally, and not discriminate or charge differently depending on user, content, website or application.

Airtel Blames Regulators for Falling Revenue, Profit

Indian mobile market leader Bharti Airtel has recorded a 13% year-on-year drop in total revenues to INR203.2 billion (USD3.18 billion) for the three months ended December 31, 2017, attributing the slump to the divestment of its Ghana subsidiary, as well as regulatory changes in its domestic market. Turnover from the operator's Indian businesses dropped 15% y-o-y to INR152.9 billion, despite continuing customer additions – in particular data subscribers – and a 450% y-o-y increase in monthly data usage per customer, as monthly mobile ARPU fell to INR123 from INR145 in the previous quarter and INR172 in the year-ago period. Recent pressure on Airtel's topline has largely been attributed to price erosion caused by new arrival

Reliance Jio Infocomm following its entry into the Indian wireless sector in September 2016. Airtel's MD and CEO for India and South Asia, Gopal Vittal, levelled the blame at Indian authorities, however, saying: 'Regulatory fiat in the form of a cut in domestic IUC [interconnection usage charge] rates has exacerbated the industry ARPU decline in Q3 2018. The recent announcement of reduction in International termination rates will further accentuate this decline and benefit foreign operators with no commensurate benefit to customers.' Consolidated EBITDA for the group, meanwhile, dropped 12% y-o-y to INR76 billion, with net income falling by 39% to INR3.1 billion from INR5.0 billion a year earlier. Despite such difficulties, however,

the group counted a subscriber base of 394.2 million at end-December 2017 (an increase of 2.8% y-o-y), including 376.4 million wireless subscribers throughout India (290.1 million), South Asia (2.2 million) and its African subsidiaries (84.1 million).



You're Moov! Regulator Orders Transfer of Glo Benin Users to Rival Network



Benin's Authority for Regulation of Electronic Communications and Post (ARCEP) signed a decision on 17 January 2018 reassigning all subscribers of Globacom Benin (Glo Mobile) to the network of Moov Benin. The order follows

the regulator's decision of 18 December 2017 cancelling Glo's mobile operating license with a month's notice, after the Nigerian-backed cellco and the Beninese government failed to agree on a price to renew the ten-year license which had expired in August. Glo – which had 1.055 million active Beninese mobile subscribers at end-September 2017 – has been banned from selling new SIM cards or mobile credit top-ups since 18 December. Moov (registered as Etisalat Benin) is the country's largest mobile operator in terms of subscribers, with 4.408 million active users on its network at 30 September 2017. Under ARCEP's latest directive, the migration of subscriber

numbers from Glo to Moov should begin on 23 January 2018 and be completed in three months, Agence Ecofin reports. The process will not be automatic: Glo SIM card owners will need to transfer their number to Moov within the three-month period or risk losing their account. Moov will have the responsibility to identify its newly acquired subscribers, whilst Glo remains responsible for maintaining all its passive/colocation infrastructure until mid-March. ARCEP also issued a warning to Moov to ensure it takes all necessary measures to avoid any deterioration in the quality of service on its network due to the sudden influx of new users.

SCRF Declines to Issue Spectrum for Russian 5G Testing

The State Commission for Radio Frequencies (SCRF) has opted not to provide Rostelecom, Mobile TeleSystems (MTS) and VimpelCom (Beeline) with the spectrum they requested for the testing of 5G wireless technology, CNews reports. At a meeting held on 28 December 2017, the watchdog deemed that the award of the requested frequencies (see below) would interfere with the

operations of Roskosmos and the Federal Protective Service (FSO). The operators had requested the following spectrum: MTS: 27.5GHz-28.35GHz in Moscow, St Petersburg, Kazan, Rostov-on-Don and Sochi; VimpelCom: 3.4GHz-3.8GHz and 25.25GHz-29.5GHz in Moscow and Moscow Region, St Petersburg and Leningrad Region, Voronezh, Samara, Tatarstan, Krasnodar and Stavropol;

and Rostelecom: 3.4GHz-3.6GHz and 3.6GHz-3.8GHz in Moscow, Skolkovo, Krasnogorsk, Kazan, Innopolis, St Petersburg, Belgorod, Shuya, Ivanovo, Kaliningrad and Svetlogorsk. The refusal means that MegaFon is the only company in possession of so-called '5G' spectrum, having been awarded 3.4GHz-3.8GHz and 25.25GHz-29.50GHz frequencies by the SCRF back in July 2017.

PTD Publishes Draft Universal Service Strategy

The Post and Telecommunications Department (PTD) of Myanmar's Ministry of Transport and Communications (MOTC) has published its draft Universal Service Strategy (2018 to 2022) and invited feedback from the public on the proposals. The document sets out the four main goals of the strategy – to make telecoms services available, accessible and affordable for all, and for all citizens to have a good level of ICT literacy – as well as three programmes intended to help achieve those targets. Program 1 covers infrastructure projects to bring population coverage for basic voice and broadband services up to 99% of the population over the next five years, with an anticipated cost of around USD34

million, bankrolled by a Universal Service Fund (USF). Program 2, meanwhile, will look to improve ICT literacy by providing additional education and training. This will be focused primarily on high schools, although some training will also be made available to the wider public via 'alternative digital learning centers' in facilities that already have internet access, such as public libraries, certain government institutions and non-government organizations. Finally, Program 3 will look into special projects to ensure availability and access for rural or low-income groups – especially those with minority languages, and individuals with additional needs. The program will also look to support other pilot projects

and develop ICT and broadband access within certain sectors, such as health. The USF will be funded by a 2% levy on service providers' annual revenues, which is expected to generate between USD100 million and USD121 million over the five years covered by the strategy. As such, the funding requirements for the main expenditure program would be raised within the first two years. The MOTC notes, however, that it will regularly monitor and review the results of the USF in terms of actual collections, disbursements, funding requirements of projects and the financial health of the sector, and may change the USF policy accordingly.

BSNL Requests 700MHz or 2100MHz Frequencies for LTE

A request from state-backed telecom provider Bharat Sanchar Nigam Limited (BSNL) for 700MHz or 2100MHz spectrum for 4G services is currently 'under examination', according to

Telecom Minister Manoj Sinha, the Economic Times writes, citing the official's speech to parliament. BSNL has applied for 5MHz in the 700MHz range for all of the 20 circles in which it operates

(the remaining two areas are served by its sister company) through an equity fusion route, or a temporary allocation of 5MHz block in the 2100MHz band for one year, for a one-off payment.

TRAI Invites Inputs on New Telecom Policy



The telecom regulator TRAI has invited public views on inputs for the proposed National Telecom Policy (NTP), which is under formulation by the government. The Telecom Regulatory Authority of India (TRAI) will give its inputs on the matter to the Telecom Department, which hopes to finalize the new policy by March 2018. TRAI released a consultation paper on 'Inputs for Formulation of National Telecom Policy- 2018'. The regulator, in a statement, said that its inputs have been prepared based on preliminary

discussions with multiple stakeholders including telecom operators, equipment manufacturers, industry bodies, and cloud service providers "in line with the technological advancements in the sector and customer aspirations for digital services". The NTP 'objectives' outlined in TRAI consultation paper include achieving 900 million broadband connections at a minimum download speed of 2 Mbps, developing 10 million public wi-fi hotspots, attaining average speed of 20 Mbps for wireless Internet connectivity, and placing India among top-50 nations in global rankings of network readiness, communications systems, and services. Other objectives include enabling access for connecting to 10 billion Internet of Things and Machine-to-Machine sensors and devices and attracting USD 100-billion investment in the communications sector. The

TRAI paper said this can be achieved through strategies like review of license fee and spectrum charges, and working towards One Nation One License for services, and making available finance for communication infrastructure projects on par with that of connectivity infrastructure sectors like roadways and railways. It said that the policy could have twin goals – facilitating development of communication infrastructure and services to achieve inclusive socio-economic growth and to propel India to become the front-runner in the "Fourth Industrial Revolution". "This policy would set the mission and objectives to be accomplished by the end of calendar year 2022, when India will be celebrating its 75 years of Independence," TRAI paper said asking stakeholders to give their comments on structure and contents of the proposed NTP inputs.

US Legislators Push to Reinstate Net Neutrality

Democrats in the US Senate announced they're pushing forward with an effort to reinstate net neutrality regulations, despite being one vote shy of a winning total. All 49 Senate Democrats and Republican Susan Collins will support a resolution of disapproval to reverse the Federal Communication Commission's (FCC) net neutrality repeal vote. Democrats said they want to call a vote this year, but the measure needs one more Republican vote to secure the 51-vote majority needed for success in the Senate. Senator Ed Markey, who sponsored the resolution, said in a statement there is a "tsunami of Congressional and grassroots support to overturn" the FCC's action on net neutrality. He added it is now up to Republicans to "be on the right side of history" or "hold hands with the special interests who want to control the internet". In addition to the one-vote hurdle in the Senate, Democrats also face an uphill battle in the House of Representatives. There, Republicans hold a 45-vote majority over Democrats. Under the Congressional Review Act, the resolution of disapproval needs to be passed by a simple majority in both the Senate and House of Representatives to effect change. In December 2017, Congresswoman Marsha Blackburn introduced

a bill to the House of Representatives to restore some of the protections against blocking and throttling forfeited in the FCC's repeal. However, the legislation doesn't include a ban on paid prioritization. The House of Representatives is yet to vote on Blackburn's bill.



US Internet Association to Join the Fight against Net Neutrality Ruling

US based lobbying group The Internet Association has said it intends to intervene in the current legal battle surrounding net neutrality. In a company statement, The Internet Association's president and CEO, Michael Beckerman, said that the recent judgement in the Restoring Internet Freedom Order was contrary to the wishes of "the majority" of American citizens. "The final version of Chairman Pai's rule, as expected, dismantles popular net neutrality protections for consumers. This rule defies the will of a bipartisan majority of

Americans and fails to preserve a free and open internet. Beckerman said that the Internet Association would consider legal action to overturn the existing verdict. "The Internet Association intends to act as an intervenor in judicial action against this order and, along with our member companies, will continue our push to restore strong, enforceable net neutrality protections through a legislative solution." The internet Association claims firms such as Amazon, Google and Facebook among its members and will therefore wield significant clout on

Capitol Hill. The Internet Association said it would continue to advocate for what it called "real net neutrality legislation" in the coming months. "Real net neutrality legislation should be bipartisan and have input from other stakeholders, including the user community, public interest groups, and industry. Internet Association has and will continue to work with all stakeholders in every relevant venue to ensure consumers are protected," added Beckerman.

Korea Set to Offer More Frequency Bands for New Industries, Social Infrastructure in 2018

In a move to make South Korea a more convenient and safe country, the government will increase the supply of frequency bands for emerging industries and households next year by easing related regulations, the Ministry of Science and ICT announced. As part of the government's plans for a 3 percent growth next year, the ICT Ministry unveiled its plan to provide frequency bands and set standards for new industries such as

autonomous driving, wireless charging, Internet of Things and drone by 2020. The plan includes a total of 14 new sectors for frequency supply and 25 deregulation cases for the next two years, expecting the measures to contribute to creating about 170,000 new jobs and 49 trillion won worth production inducement. The ministry also announced its roadmap for commercialization of the fifth-generation telecommunications network, as well as

launching the frequency auction in June 2018 and aiming to commercialize the network in March 2019. The target date of the auction is a year earlier than initially planned in order to be at the forefront of the global 5G competition, according to the announcement. The price for 5G frequency is estimated to be around 10 trillion won (\$9.3 billion). For the self-driving industry, the ministry will set a technological standard stipulating that

the frequency band for sensors that prevent vehicle clashes should be 77 to 81 gigahertz (GHz). In order to realize fully-autonomous driving, the sensors, considered the "eye" of autonomous vehicles, would require technical elevations, and in doing so would need such frequency band standards, the ministry said. The government will start providing frequency bands for wireless charging points for compact electric vehicles, making it possible to charge cars anywhere. Yet, the ministry will set the frequency standard in accordance with an upcoming agreement by the World Radiocommunication Conference in 2019. For IoT, sufficiency of frequency sources are essential to the rapidly growing use of IoT sensors, the ministry said, as it came up with a plan to supply 5GHz-frequency spectrum in addition to the current 900 megahertz and 2.4GHz bands. The ICT Ministry will also establish technological requirements for the frequency bands provided for flights of unmanned cargo aircraft for secure control and telecommunications. For

smaller drones with special purposes such as preventing forest fires, the ministry will further come up with safety standards, it said. Licensed IoT frequency channels will be provided for smart factories, allowing manufacturers to create a secure IoT network within their plants that help improve productivity and keep security. Those factories will also be able to utilize the Long Term Evolution telecom network for operations in the unlicensed frequency bands, which will enable sending and receiving visual data from production sites to back offices, improving from the current voice-focused trunked radio system. Additional frequency bands will be supplied for artificial intelligence robots used at smart factories in order to prevent clashes and telecommunications among the robots. "Frequency for industries and daily lives is a crucial source of the 'fourth industrial revolution,'" said Ryu Je-myung, director general of the frequency policy bureau at the ministry. "The government will continue policy efforts to provide frequency at an opportune time for

appropriate use, which will help promote new industries and therefore improve quality of digital lives." In the field of social infrastructure, the government's plan is focused on quality of life, the main mantra of the administration's 2018 economic blueprint. By providing the 2.3Ghz band that is available for building over 1Gbps backhubs that receive large-volume data from the internet network, citizens will be able to use about 100 times faster Wi-Fi at public places including the metro trains, the ministry said. The 5.8GHz band will be applied to adjust streetlights with an aim to cut down power consumption by the lamps by 30 percent. A plan for using 1GHz for the ground penetrating radar system purposed at preventing sink holes will also be discussed next year, which will be used more widely for management swage systems and constructions. With the IoT frequency, individuals will also be able to charge their smartphones through IoT sensors without plugging the devices into power outlets.

Third Telco Slot Open to All Comers in Philippines, Conditionally

Malaya Business Insight writes that the Philippines government is prepared to open the planned third telecoms operator slot to all comers – local and foreign – should the proposed tie-up with China Telecom fail to become a reality. With President Rodrigo Duterte having set out his stall to fast-track a plan for the third telco to launch in 1Q18, presidential spokesman Harry Roque has hinted at there being underlying problems to the deal. 'If for any reason, China Telecom or China itself decides not to push through with the third telecoms [operator bid], of course, we have the option to offer it to other companies,' he said, and while there are no indications China Telecom or Beijing is actively backing away from the project, Roque confirmed that the government would consider other options should Duterte's preferred option unravel. In November 2017 President Duterte extended an offer to China to become

the country's third telecoms operator in a bid to end the de facto duopoly of PLDT Inc. and Globe Telecom. At the time Mr Roque was quoted as saying: 'The good news is consumers can look forward now to better telecommunications, not just in terms of cellular technology but also in terms of internet speed, as well as access ... the announcement is that telecoms duopoly is about to end.' The following month China Telecom was 'selected' to fill the slot, and soon after the sometimes controversial president said he wanted the country's new third telco to begin operations as soon as Q1 2018, and to that end ordered the swift approval of its licence application to fast-track its smooth passage to market – reportedly issuing orders to the relevant agencies and regulatory bodies to 'ensure the third telecom provider will be up and running by about the first quarter of 2018'. However, Roque now says that –

based on his past dealings with Chinese investors – one area that may scupper the plan is that some Chinese nationals are not comfortable with not having a 100% ownership of a firm. Under the Philippines' Constitution, foreign ownership of utility companies, including telcos, is limited to 40%. Filipino companies Philippine Telegraph & Telephone Corp (PT&T) and state-owned power utility National Transmission Corporation (TransCo) are thought to be in contention for the 60% share of the proposed joint venture, but Roque's comments suggest the country's onerous ownership cap could come back to haunt Duterte. TeleGeography notes that in 2007 ZTE Corp of China was awarded a USD330 million contract by the Philippines government to set up a broadband network linking state agencies, but the deal was subsequently annulled over allegations of corruption. 🇵🇭

A SNAPSHOT OF REGULATORY ACTIVITIES IN SAMENA REGION



The Universal Access Department of sector watchdog the Afghanistan Telecom Regulatory Authority (ATRA) has signed contracts with three cellcos for the deployment of 250 new mobile base transceiver stations (BTS) in remote and rural areas. Under the agreements, the ATRA will provide USD19.2 million to

Roshan for the installation of 137 sites, whilst Afghan Wireless Communications Company (AWCC) will receive funding totaling USD9.5 million to roll out 84 new BTS. Finally, state-backed Afghan Telecom (Aftel) will be handed USD3.4 million to deploy 29 sites. (January 11, 2018) telegeography.com

Afghanistan



The Minister of Post, Telecommunications, Technology and Digitalisation, Imane Houde Faraoun, has categorically denied that the government has any plans to sell shares in Algerie Telecom or its mobile subsidiary Mobilis. The minister stated in a radio interview on 21 January that the state has 'definitely excluded' the potential option to open the capital of the two 'beneficiary and profitable' public enterprises, although 'public-private partnerships' for certain services will be developed. She added that the turnover of Algerie Telecom and Mobilis continues to grow thanks to effective management. Whilst full annual financial results are yet to be finalized, the ICT minister disclosed that Mobilis generated mobile revenue of around DZD126 billion (USD1.094 billion) in 2017, up by roughly DZD4 billion compared to 2016, whilst the cellco's yearly net profit

also increased, from around DZD14 billion to DZD18 billion. (January 24, 2018) Agence Ecofin

The state-backed national full-service Operator Algerie Telecom expanded its domestic fiber-optic backbone network by over 6,000km during 2017 to reach a total span of 76,515km, according to a statement to the press from the Ministry of Post, Telecommunications, Technologies & Digitalization (Ministere de la Poste, des Telecommunications, des Technologies et du Numerique [MPTTN]). Whilst the telco's fiber backbone was extended by more than 21,000km in the three year-period 2015-17, the MPTTN added that further sections spanning 7,000km are currently under construction.

(January 23, 2018) telegeography.com

Algeria



The Telecommunications Regulatory Authority (TRA) in the Kingdom of Bahrain has commenced approvals of applications submitted by the telecommunications network operators for the deployment of new public radiocommunications stations (telecommunication towers) in various areas in Bahrain. The approval took place in coordination with the government entities represented by Municipalities, Supreme Council of Environment, Civil Aviation Affairs and other relevant bodies. TRA, in cooperation with a specialized international consultancy office, has recently developed a new regulatory framework to regulate the deployment of new telecommunications towers and rectify the existing ones in accordance with international best practices in order to ensure the optimal implementation of the provisions of the Prime Ministerial Decision No. 45 of 2015. TRA aims through the new regulatory framework, at enabling the concerned operators to effectively deploy new telecommunications towers

and develop existing ones according to new permit procedures and engineering specifications agreed upon with the relevant government entities. TRA is currently working on developing an automated system through which all applications for deploying telecommunications towers can be submitted and approved. TRA also aims through the new regulatory framework, at ensuring that telecommunications towers blend with and compliment the environment around them. The new regulatory framework will also encourage shared usage of telecommunications towers among operators and limit the replication of towers without operational need, where it is anticipated that this will reduce the large number of towers in the Kingdom. The new regulatory framework will also ensure that all existing towers are gradually rectified within an appropriate period of time to comply with applicable laws and regulations. Eng. Mohammed Alnoaimi, TRA Director of Technical & Operations stated that

Bahrain

"the new tower regulatory initiative is a real example of TRA's effort and commitment to further enable the telecoms industry for deploying state of the art infrastructure and networks capable of delivering next generation services. At the same time, it considers the visual impact of towers, addressing an environmental public concern." Alnoaimi further stated, "We will seek the views of the general public about any new tower which will be built in their neighborhoods. TRA will take all valid views and concerns into consideration moving forward in this regard. Through this framework we also aim to have a time efficient process and ensure fast tracked delivery of telecoms services to the public." (January 9, 2018) tra.org.bh

The Telecommunications Regulatory Authority (TRA) recently published its mobile quality of service report for year 2017, surveying the most popular mobile services in Bahrain including web browsing, popular apps use, video playback, data transfer, SMS and voice calls, under a variety of testing conditions, such as indoor and outdoor use. The report most prominently highlights the TRA's assessment of nationwide network coverage for all operators having met the license requirement of 99% population coverage across the kingdom in outdoor use of mobile services whether through calls or data usage on both 3G and 4G handsets. In other highlights, all operators have improved their performance levels for data use, particularly since the activation of 4G in 2014. The average speed for a download session, which was 8.4 Mb/s in 2011, is now 37.3Mb/s, and 73.6% of files are now downloaded with a speed exceeding 10Mb/s. Uploading a file is also faster than the previous years, as the average speed was approximately 1Mb/s with 3G only, while it is now over 23Mb/s. The average time to upload a 50MB

file is now less than 30 seconds, which is particularly relevant in the use social networking applications. Voice service Quality on mobile networks has significantly increased since 2014, as the rate of perfect calls (2 minute calls, with no drop and no quality defect during the communication) is now 99.3%, against 93.8% 3 years ago. This quality level was stable at around 94% since 2010. While SMS service usage has decreased with the rise of social networks and messaging apps, are still at a well performing level, as 96.6% of SMS messages are received within 15 seconds. The use of internet has been evaluated by browsing on most popular websites in Bahrain (Google, Facebook, YouTube etc.). The average time to load a webpage is around 3 seconds, and 96% of webpages have been downloaded within 10 seconds. The most popular social networks have been evaluated as far back as 2016. On Facebook, the available speed for uploading is around 10MB/s, which means that an average volume of 18Mb of data is transferred within 30 seconds. On Instagram, it takes approximately 5 seconds to publish a photo made with the handset. "The Telecommunications Regulatory Authority of the Kingdom of Bahrain prepared this report in the continued interest of the promotion and improvement of Quality of Service." Says Eng. Mohamed Alnoaimi, TRA Director of Technical Operations. "TRA is the only authority in the GCC to publish results of field tests measurements using protocols built to be as close as possible to user experience. The effect of this policy is that industry results of Mobile Network in Bahrain are maintained at the best international standards quality levels for the whole range of mobile services as shown in the report published on the TRA's website." He added further.

(January 7, 2018) tra.org.bh



Bangladesh

The Bangladesh Telecommunication Regulatory Commission (BTRC) has decided to declare all five applicants eligible for 4G licenses, following the evaluation of their respective bids for LTE concessions and spectrum. Jahurul Haque, Legal and Licensing Commissioner of the BTRC, was cited as saying: 'In a country with only five mobile operators, we don't have too many options to choose from for 4G license. That's why we have decided to go easy on the operators while evaluating the applications.' Earlier this month, the BTRC received five applications for 4G licenses, while all four privately-owned operators – GrameenPhone, Robi Axiata, Banglalink and defunct Citycell – will participate in the spectrum auction scheduled for February 13; state-run Teletalk, meanwhile, has opted to skip the spectrum auction and use its current frequencies for 4G services. According to the BTRC guidelines, operators must pay an application processing fee of BDT500,000 (USD6,000), a license fee of BDT100 million and an annual fee of BDT50 million over the 15-year licensing tenure. Operators will, meanwhile, have to pay separately for technological neutrality of their exiting spectrum if they want to offer any service (2G/3G/4G). If any operator opts to make its entire spectrum neutral it will have to pay USD4 million for each MHz, while for partial conversion the charge will be USD7.5 million per MHz. (January 24, 2018) , The Daily Star

The Bangladesh Telecommunication Regulatory Commission (BTRC) will not enforce a precondition that required wireless service providers to ensure a minimum 20Mbps download speed in their 4G license applications. Shahjahan Mahmood, Chairman of the telecom regulator, told that the minimum speed requirement will be kept as a quality of service (QoS) directive, with the figure to be updated 'from time to time', adding: 'In the QoS directive, we will set a standard speed and if operators fail to ensure it, they will face tough action.' Last week the BTRC received five applications for 4G licenses, with all four privately-owned operators – GrameenPhone, Robi Axiata, Banglalink and defunct Citycell – set to participate in the 4G spectrum auction scheduled for February 13. (January 22, 2018) The Daily Star

The Bangladesh Telecommunication Regulatory Commission (BTRC) has received five applications for 4G licenses, with all four privately-owned operators – GrameenPhone, Robi Axiata, Banglalink and defunct Citycell – set to participate in the spectrum auction scheduled for February 13. Shahjahan Mahmood, chairman of the BTRC, said that state-run Teletalk has not applied for spectrum, noting: 'Maybe Teletalk thought their existing spectrum was good enough for offering 4G data service.' The operator currently has 25MHz of spectrum across

three bands. Though the BTRC has put a provision in the 4G guidelines to facilitate participation of new entities, no such applications were made, prompting Mahmood to say: 'It is tough to get any new party but if any application is received the BTRC will send it to the government for their consideration. We have not shut the door to foreign investors.' The BTRC has already formed two separate committees to evaluate the applications for the 4G licenses and spectrum auction; the qualified applications list will be published on 25 January, while a mock auction will be conducted on February 12. According to the BTRC guidelines, operators must pay an application processing fee of BDT500,000 (USD6,000), a license fee of BDT100 million and an annual fee of BDT50 million over the 15-year licensing tenure. Operators will, meanwhile, have to pay separately for technological neutrality of their exiting spectrum if they want to offer any service (2G/3G/4G). If any operator opts to make

its entire spectrum neutral it will have to pay USD4 million for each MHz, while for partial conversion the charge will be USD7.5 million per MHz. (January 16, 2018) telegeography.com

The Bangladesh Telecommunication Regulatory Commission (BTRC) will resume handing over ISP licenses from next week, according to an unnamed government official. The Daily Star writes that of the approved licenses, seven are valid nationwide, 14 in zones in Dhaka and adjoining areas, 81 in zones in the rest of the country, 216 in divisional towns, 28 in districts and 178 in upazilas. 'We know that this is a huge volume of licenses and it can create some challenges, even for our day-to-day monitoring and regulatory tasks,' the official was quoted as saying. In November 2017 BTRC Chairman Shahjahan Mahmood said the ministry had not issued new licenses for over a year due to 'bureaucratic complexities'. (December 25, 2017) thedailystar.net



Egypt

According to indicators, the number of ADSL subscribers increased in November to 5.1 million, up from 4.9 million in September. Telecom Egypt's subsidiary TE Data accounted for the largest share of ADSL users, with over 75% of the market. The four other companies, Vodafone, Orange, Etisalat, and Noor, share the remaining 25%. The internet market in Egypt gained over 2 million users, mostly through mobile internet, in September. According to a previous report by the Ministry of Communications, the total number of internet service users increased from 39.98 million in August to 41.98 million in September. The biggest growth came from the mobile internet sector, where the number of users increased from 31.78 million

in August to 33.76 million in September, rising by 3.1%. Mobile internet penetration compared to the total users of internet in Egypt reached 41%. USB modem internet clients fell slightly in September, falling from 3.28 million in August to 3.27 million, marking a decline of 0.23%. On the other hand, ADSL internet users grew by 0.57%, increasing from 4.92 million in August to 4.95 million in September. Greater Cairo had the largest proportion of ADSL users, accounting for 41%. The Delta region accounted for 31% of ADSL users, Upper Egypt for 12%, Alexandria and Matrouh for 10%, and the Suez Canal region and Red Sea for 6%.

(January 21, 2018) zawya.com



Iran

The Second bilateral meeting on frequency coordination was held in Oman- Muscat on January 7-9, 2018. Negotiations were proceeded smoothly in a friendly collaborative atmosphere with participants from Oman Regulatory (TRA), Iran Regulatory (CRA), experts from Mobile Operator's of both countries, IRIB (Islamic Republic of Iran Broadcasting) as well as Oman PART

(Public Authority Radio and TV). The two parties agreed upon technical topics of mutual concern such as bilateral cooperation on the situation of the spillover, the reduction of frequency interference in the frequency bands related to 4G for mobile, and broadcasting stations (Audio and Video).

(January 17, 2018) cra.ir



Iraq

The Ministry of Communications (MoC) has confirmed that the government was able to secure additional international capacity through other cable routes to compensate for a shortage following a reported break in the FALCON cable last week. Hazem Mohammed Ali told press that capacity from the

alternative sources would make up a large part of the shortfall until the cable is repaired. The repair of the cable is expected to take between one and two weeks, the official added, although cable operator Global Cloud Exchange has yet to publicly comment on the situation. (January 24, 2018) telegeography.com



Jordan

TRC issued a green paper on the Internet of Things according to the board decision number 2-17/2017 dated 31/12/2017, which

contains suggestions and recommendations about systems and services dealing with Internet of Things. (January 11, 2018) trc.gov.jo



Kuwait

The Chairman of Communication and Information Technology Regulatory Authority of Kuwait, (CITRA) Eng. Salem Alozainah, announced the importance of the national strategy of cyber security to enhance the security of information in all forms in the State of Kuwait. He pointed out that the Communication and Information Technology Regulatory Authority of Kuwait signed the first contract with the International Consulting Group (Protection Group International) and put the solutions and procedures required to study the general situation of Kuwait to implement the National Emergency Response Center project in accordance with the agreement signed between the State of Kuwait and the British government. He expressed his aspiration to establish the National Center of Cyber Security during the next three years to achieve proactive management of the threats and

dangers of cyberspace in addition to secure state institutions in an integrated security framework of policies, procedures, standards and technical controls. Al-Ozainah expressed on the workshop, which extended for two days with the participant of more than 33 governments and private entities, particularly in various sectors aimed at informing them of the project (Phase Zero), which aims to collect information by those institutions, in addition to the development of regulations for each side to protect the security system. He thanks all the attendees and participants in this workshop, hoping that such meetings, cooperation and coordination will continue to develop our capabilities and intensify our efforts to enhance the digital security of our country.

(January 19, 2018) citra.gov.kw



Nepal

More than 250 new users were connected to the internet every hour last year, the Nepal Telecommunications Authority (NTA) said. Thanks to a mobile phone boom, a vast majority of Nepalis now have access to a phone and internet connection. According to the NTA's Management Information System (MIS), 2.25 million new users were connected to the internet last year. That translates to more than 250 new users every hour. As of October 2017, 16.67 million Nepalis had been connected to the internet, up 15.60 percent year-on-year. The staggering growth means that nearly 63 percent of Nepal's population is now connected to the internet. Less than 30 percent of Nepalis used the internet in 2010. The number of internet users has been growing rapidly largely due to the result of a competitive market, service providers said. As expected, cell phones are the main driver of Nepal's internet adoption, with 95.62 percent of the population living within range of a mobile tower. The growth in internet penetration has been facilitated by increasing mobile connectivity across the country and availability of browsers and data connection even on relatively inexpensive phones, said the NTA. Telecommunications service providers say that the use of data in Nepal has been increasing constantly with more people using social media platforms like Facebook and Twitter and communication platforms like Viber, Messenger, WhatsApp and WeChat. While social networking sites are popular among teenagers and youths, platforms like Viber are popular among those having family members abroad. "The launch of 4G service also helped increase the number of new

internet users last year," said Purushottam Khanal, senior director of the NTA. As there are still some areas which are not connected with the mobile network, internet penetration is likely to grow if they are connected, he said. Mobile-based internet in Nepal is provided through platforms such as GPRS, EDGE, and WCDMA. Of the total mobile internet users, Nepal Telecom (NT) has the largest base of 8.66 million users, representing 54.91 percent of the market. Its closest rival Ncell has 7.41 million users, commanding 42.43 percent of the market. The remaining users are customers of United Telecom Limited (UTL) and Smart Telecom. Internet penetration has also been growing through cable and fiber networks provided by different internet service providers (ISPs). The ISPs have 322,433 customers or 1.93 percent of the total number of internet users. The internet service provided by ISPs or through cable and fiber networks can be consumed in large quantities as subscription for a given internet speed can be utilized without a threshold for data. This scheme is largely used by offices. However, mobile-connected data is mostly charged according to data consumption. According to Khanal, the internet service provided by ISPs is likely to be underrepresented as a single connection can be utilized by multiple users in a family, school or public places. There are at least 23 ISPs in Nepal. World Link has the highest customer base of 64,170 customers, and Subisu Cable has the second highest user base of 53,732, followed by Broadlink Network and Communication with 21,581 users.

(January 21, 2018) kathmandupost.ekantipur.com

In a bid to crack down on sale of illegally procured mobile phones, the government will introduce a system under which the Subscriber Identity Module (SIM) cards of telecom companies will not function in unregistered mobile devices. Nepal Telecommunications Authority is preparing a guideline to enforce such a system to render useless handsets that arrive in the market via illegal channels. In a simpler sense, mobile phones whose International Mobile Equipment Identity number is not registered at NTA will not accept SIM cards of any telecom companies once the authority enforces the system. Min Prasad Aryal, spokesperson for NTA, said the authority would appoint a third party to develop the system to render inoperable unregistered handsets soon. Aryal said the third party firm would connect its system to the network of all telecom companies in the country and make SIM cards in unregistered handsets dysfunctional. Aryal said the new system would be implemented within a few months. "We'll be submitting guideline to enforce the system to the Cabinet soon," said Aryal. He added that importers and traders of mobile phones in the country had been notified about NTA's initiative to make SIM cards inoperable in unregistered sets. NTA had made registration of new mobile phones mandatory for domestic mobile dealers and individual importers from April 13, 2016, to discourage smuggling of handsets. Moreover, NTA had announced that unregistered mobile phones would become dysfunctional from April 1, 2017. However, NTA deferred the deadline, as its implementation could have affected a large number of mobile phone users. Since NTA made registration of IMEI numbers mandatory for handsets, IMEI numbers of almost 15 million mobile phones have been registered at NTA offices so far. One calculation based on the available government data suggests that more than 11,000 mobile sets enter the domestic market every day. NTA officials claimed that the flow of illegal handsets in the domestic market has come down significantly since it made IMEI registration of handsets compulsory. However, they suspect around 10 per cent of handsets available in the market were brought in through illegal channels. (January 16, 2018) thehimalayantimes.com

After a long wait, Nepal is finally set to receive internet bandwidth from China. The state-owned telecom company – Nepal Telecom (NT) – said that all the groundwork has been completed to formally connect Nepal with Chinese bandwidth from January 12. "The process of acquiring internet bandwidth from China has been completed. The commercial operation of the Nepal-China optical fiber link will begin from Friday," informed Prativa Baidhya, spokesperson for NT. However, NT did not disclose the actual volume of Chinese internet bandwidth that Nepal will receive. In December 2016, NT had entered into an agreement with China Telecom to acquire internet bandwidth. However, commercial operation of this cross-border optical fiber link had been delayed constantly due to various technical reasons. However, after the technical issues were gradually resolved, NT had begun the test transmission of the project from the first week of September last year. With successful test transmission, Nepal will now be commercially connected with Chinese bandwidth, according to NT officials. As per NT, Chinese internet will be supplied via Rasuwagadhi gateway. As the use of internet has been increasing rapidly in the country, Chinese internet bandwidth is taken as an alternative source for Nepal to meet the ever-increasing bandwidth demand. Moreover, the commercial operation of the Chinese bandwidth project will end Nepal's sole dependence on India for internet bandwidth. Nepal is currently linked to the global internet connectivity through Indian telecom operators via different optical fiber connections in Biratnagar, Bhairahawa and Birgunj, among others. Besides ending the monopoly of bandwidth supply, the Chinese internet gateway is also expected to facilitate service providers in Nepal to establish bandwidth connection with other countries through China. Though NT is purchasing limited volume of internet from China in the first phase, the company has said that it will increase the volume of Chinese internet gradually in the coming days. Meanwhile, the optional bandwidth from China is also expected to increase the competition between the various internet service providers in the country, reduce internet cost for consumers and boost the quality of internet in the country. As Nepal Telecom is learnt to have tapped Hong Kong's server, customers are unlikely to face any problems while surfing Google and other sites using the Chinese bandwidth. (January 13, 2018) thehimalayantimes.com



Consumers looking to get hold of fancy mobile phone numbers will now get a chance to participate in auctions conducted by the telecom operators under the strict guidance of Telecommunications Regulatory Authority (TRA). The upper limit of the auction price has been set at RO5,000, while the minimum amount for diamond and gold numbers is RO100 and RO75 respectively. Under the non-geographic public telecommunications numbers, TRA has divided special numbers into three categories: diamond, gold and silver numbers. Silver numbers are not included in the auction and have a fixed price of RO50. In a statement TRA said that the current decision (No 1/2018) has been issued within the framework of achieving transparency in the allocation of telecommunication numbers

among users of telecom services. "The diamond and gold numbers will be allocated through auction in accordance with the regulations set forth in the decision." The auctions will be held online through telecom operator websites. "TRA requests all interested to register in the auction system (soon) and follow up advertisement of telecom companies about the first electronic auction of special numbers (diamond and golden). According to the TRA decision, the registration for the auction will begin three days prior to the auction, with each registration costing RO20. TRA allocates the operators a block of 100,000 numbers. Each block contains a range of special numbers which are usually extracted separately. There are five types of diamond numbers, and seven of gold and silver numbers each. According to the

Oman

decision, trading of special numbers is forbidden except with certain conditions. The exception includes between husband and wife or first degree cousins provided that they should prove such relation officially; between governmental organization and

companies with a government stake and their employees and companies that are classified as first degree ones as per the Ministry of Transport and Communications.

(January 17, 2018) muscatdaily.com



Pakistan Telecommunication Authority has asked Federal Board of Revenue to withdraw the recently imposed 20% regulatory duty on import of fiber optic cable, we have checked with sources. According to details PTA asked the FBR to withdraw the tax as fiber optic cable is considered a basic component for the telecom sector, and such prohibitively high taxes will only hinder the industry. Telecom companies are already paying 20% custom duty, 17% sales tax, 3% value added tax and 5.5% advance tax on the import of fiber optic cable. On top of these taxes, government of Pakistan imposed another 20% regulatory duty on import of fiber optic cable in October 2017. With all of these taxes, it has become impossible for internet service providers and mobile cellular companies to expand their services to new areas, reads the letter written by Pakistan Telecommunication Authority. PTA said that the entire economy will be affected because of the new tax by FBR. In addition to home consumers being affected, high-cost of fiber optic layouts will mean slower roll-out and internet penetration growth. The telecom authority said that such unrestrained taxes on fiber optic cable will impact the growth of safe city projects, communication related projects of CPEC, expansion of 3G and 4G network rollouts as well as high-speed internet for masses in areas where FTTH services are not available as of yet. PTA noted that fiber optic cable is not a luxury item anymore as it is the most basic requirement for development in almost all sectors of the economy.

(January 22, 2018) proakistani.pk

The number of 3G and 4G users in Pakistan reached 48.19 million by the end of December 2017, state the Pakistan Telecommunication Authority (PTA). Number of mobile phone users in Pakistan reached 144.52 million by the end December of 2017 compared to 143.34 million by November 2017, registering an increase of 1.18 million during the period under review Jazz's total count for 3G users stood at 14.299 million by December compared to 14.069 million by end November 2017, registering an increase of 0.23 million. Jazz 4G user numbers jumped from 1,750,866 by November to 1,934,752 by 31st December 2017. Zong 3G subscribers increased to 9.044 million by the end of December 2017 compared to 9.0297 million by 30th November, while the number of 4G users jumped from 4,845,504 by the end of November to 4,961,350 by the end of December. The number of 3G users of Telenor increased from 10.59 million by the end of November 2017 to 10.63 million. Like others, the number of 4G users jumped from 1,361,514, by 30th November 2017, to 1,594,897 by December 2017. Ufone added 0.166 million 3G users on its network during the month of December as the total reached to 5.720 million by 31st of the month against 5.556 million during the month before. Teledensity for cellular mobile reached 72.72 percent and broadband subscribers reached

50,512,909 by December 31 as compared to 49,527,254 by end November 2017. (January 22, 2018) proakistani.pk

The Attorney General of Pakistan (AGP) has issued a statement supporting the Special Communication Organization's (SCO's) bid for a telecom license to operate throughout Pakistan, Pro Pakistani reports. Operated by the Ministry of Information Technology and Telecommunication (MoITT) and controlled by the military, the SCO currently provides fixed and mobile services to the public and private sectors in Gilgit-Baltistan (GB) and Azad Jammu and Kashmir (AJK). The company has been seeking autonomy from the MoITT and permission to operate throughout Pakistan on a commercial basis for the last two years, saying that government procedures were holding up infrastructure works, giving its privately-owned competitors an advantage. The MoITT has consistently opposed the proposals, however, citing a non-compete clause in the shareholder agreement between the government and Etisalat, signed as part of the latter's acquisition of a 23% stake in incumbent provider Pakistan Telecommunication Company Limited (PTCL) in 2006. Pakistan's Ministry of Law and Justice, however, is backing the SCO's request, arguing that there is no legal barrier to issuing a nationwide license to the SCO. The law ministry claims that the terms of the shareholder agreement were illegal – a view also supported by the Competition Commission of Pakistan – whilst the SCO has stated that it does not intend to compete with other telecom operators outside of GB and AJK. Instead, the SCO has said that its wishes to operate nationwide for strategic and national security reasons. Consequently, the AGP has now thrown its weight behind the SCO, stating that 'as long as [the] SCO remain within the confines of its mandate and establishes a regime which caters for [the] strategic and security concerns of Pakistan, it will not fall foul of the covenant made between Etisalat and the Government of Pakistan.' To guard against any potential 'litigious challenges', however, the AGP said the SCO should incorporate a separate legal entity for the operations, and that its intention not to compete with Etisalat should be on record. (January 9, 2018) telegeography.com

More than Rs.10 billion Broadband Sustainable Projects were awarded by the Universal Service Fund (USF) in 2017 to various telecom operators in the underserved and far-flung areas. These areas mainly include those in Baluchistan, Khyber Pakhtoonkhawa and FATA. The areas of Baluchistan have been focused due to its emerging strategic significance with China Pakistan Economic Corridor (CPEC). The current USF projects include 3G services in CPEC adjoining areas such as Khara-Washuk, Kalat, Khuzdar, Awaran-Lasbela, Sibi, Zhob, Kohistan, DI Khan, Khyber and Dera Bugti, it has been learnt. In addition

Pakistan

to this, computer labs have also been established at Pakistan Baitul Mal centers in Balochistan. The availability of telecom infrastructure and services in these areas will certainly enhance the socio-economic betterment of these areas and will increase the effectiveness of the CPEC. Besides, Balochistan is the biggest untapped market for telecom operators with the lowest number of mobile phone users. According to an estimate, out of more than 12.3 million population, 46% of the province population has no access to either mobile, wireless or a fixed line network. In 2017, USF continued its journey of success by providing 3G/mobile internet services in rural areas, facilitated use of ICTs for females, laid optic fiber to connect un-served tehsils across the country and worked for spreading the benefits of e-services throughout the country. All these projects brought a phenomenal change in lives of people and empowered communities at a large scale, said a spokesperson at USF. By completing many successful programs and laying foundation for several new projects in the year 2017, USF has been able to create a drastic and unprecedented digital revolution in the country and has transformed the lives of the people, she said. Since its inception, USF has so far disbursed various development projects of more than Rs. 50.5 billion. Ufone was awarded 28 percent of the subsidy amount. It is followed by PTCL with 26 percent and

Telenor with 24 percent share. Zong's share stands at 10 percent whereas the share of Mobilink and Warid stands at less than one percent. In addition to these projects, ICTs for Girls program was also launched. Thousands of women are being trained at state of the art computer labs under the coaching and training program of Microsoft at Pakistan Baitul Mal. The aim of the project is to provide equitable learning opportunities to women in these centers so that they can contribute to socio-economic development of the country. The 2nd wave of ICT Girls Program is covering girls' schools in Islamabad to provide digital learning to thousands of students in one cycle. Through this program, 226 computer labs are being established in Government Girls' institutions in Islamabad Capital Territory and around 70,000 students and 202 teachers will be provided training by Microsoft. In the near future, projects will be awarded for providing mobile broadband services in DI Khan and will be launched in 2018 for services in North Waziristan, South Waziristan, Kurram, FR Tank, Orakzai, FR Bannu and Lakki Marwat. In addition, project for optic fiber will be awarded to connect the unserved tehsils of Khyber Pakhtunkhwa. Moreover, through the project for empowerment of SMEs/artisans through e-commerce, USF will play a crucial role in uplift of the marginalized communities by providing a platform for their businesses. (January 12, 2018) propakistani.pk



After years of negotiations with the Israeli authorities, both of the Palestinian Territory's mobile network operators (MNOs) have finally been able to launch commercial 3G services. Palcel, which trades under the Jawwal banner, is reported to have introduced UMTS-based connectivity for customers earlier this week, with Ammar Aker, chief executive of the Paltel communications company which owns Jawwal, cited as saying of the development: 'We launched 3G technically and commercially about midnight on Monday. This is a strategic step we have been waiting for more than 10 years. We hope it has a positive effect on the national communications infrastructure) and economy.' Wataniya Mobile, meanwhile, has confirmed via a press release its intention to inaugurate its 3G network today (23 January), adding that it will make the advanced connectivity available to all subscribers free of charge. While it had initially planned to make the service live on 22 January, it held off from doing so in light of strikes across the West Bank which were being carried out in protest at the visit of US Vice President Mike Pence to Jerusalem, and the US administration's recognition of that city as the capital of Israel. Notably, 3G services will only be available from both cellcos in the West Bank initially, and not in the Gaza Strip. (January 24, 2018) The Times of Israel

Palestinian cellular providers Jawwal and Wataniya Mobile will launch 3G mobile networks for customers in the Israeli-occupied West Bank by the end of January, an official said. Suleiman al-Zuhairi, Deputy Minister of Telecommunication in the West Bank-based Palestinian Authority (PA), told Reuters the two companies will be launching the service simultaneously having recently received a green light from Israel. In 2015, Israel and the PA signed an agreement to allow 3G networks to operate in the West Bank, but the implementation was delayed by Israel, al-Zuhairi said. COGAT, Israel's military liaison agency with the PA, said in an email to Reuters it had been working on the project for the past year and a half according to the pace of regulatory and technological progress. Under interim peace deals Israel has final say in allocating radio frequencies in the West Bank and Gaza. 3G is mobile phone technology that allows users to make calls, texts and access the internet. 2G allows calls and limited data transmission. The 3G service will not be extended into the Gaza Strip at this stage, said Suleiman al-Zuhairi. Wataniya Mobile and Jawwal presently offer only 2G services in Gaza. Entry of third-generation mobile network equipment is dependent on Israel, which regards Hamas, the dominant armed power in the enclave, as a terrorist group. (January 15, 2018) reuters.com

Palestine



Saudi Arabia

The Communications and Information Technology Commission (CITC) is launching an investigation into the country's new mobile data tariffs, after the country's main mobile providers hiked prices by 50% in line with the 1 January 2018 application of VAT. Adel Abu Haimed, spokesperson for the CITC: 'The CITC is launching an urgent investigation in light of complaints raised by users about the possibility of non-competitive practices and the monopoly in price fixing by some service providers ... The CITC affirms that in regulating the telecommunications market, it intervenes in cases of price fixing schemes coordinated by service providers at a given time. Any infringing practices will be dealt promptly and strictly.' The official added that the Commission will issue a statement after the completion of the investigation and the subsequent decisions taken.

(January 8, 2018) Arab News

The Saudi Capital Market Authority (CMA) has fined Etihad Atheeb (GO Telecom) SAR100,000 (USD26,600) for violating listing rules, the regulator said in a statement. 'The company presented misleading and incorrect information to the CMA related to the latest developments in the results of its participation and winning of the bidding offer of the 700MHz and 1800MHz bandwidth frequencies, organized and supervised by the Communications and Information Technology Commission [CITC],' the statement said. A fine of SAR40,000 was also imposed on the telco for failing to announce a major development on the Tadawul website in June last year.

(January 3, 2018) telegeography.com



Sri Lanka

In the middle of December 2017, the Ministry of Telecommunication and Digital Infrastructure with the support of McKinsey and Company embarked on the process of developing Sri Lanka's Digital Economy Strategy. The initiative will enable Sri Lanka to scientifically identify appropriate opportunities for promoting Sri Lanka's Digital Economy and the key enablers to promote the Digital Economy as well as initiate three flagship programs that would promote Sri Lanka's Digital Economy Strategy. According to a press release issued by the Policy Development Office of the Prime Minister's office, the current consultancy with McKinsey & Company is a short term eleven-week assignment which will be conducted in three phases. The first phase will focus on the diagnostics to develop an understanding of Sri Lanka's readiness to move into the Digital Economy. The second phase will concentrate on designing three flagship programs to kick-start the Digital Economy and ten projects to establish key enablers to support the Digital Economy. The final phase will focus on launching the

identified programs and projects. This initiative will strategize the promotion of the Digital Economy through the lens of three economic development thrust sectors, namely, agriculture sector, tourism sector and the manufacturing sector. It is expected that each of the sectors identified above will could develop at least one flagship programs to support this initial stage of Sri Lanka's Digital Economy Strategy. At a meeting of the steering committee held on 4th January held at the Policy Development Office in the Temple Trees where the inception report was presented, it was decided the diagnostics phase of the assignment will commence by 15th January and last a period of two weeks. This would be followed by a five-week design phase, during which it is expected to have the relevant programs and projects identified and ready to be launched by early April, 2018. McKinsey & Company while presenting their inception report confirmed that the proposed Digital Economy for Sri Lanka could uplift GDP by 1%-3% in 2019.

(January 8, 2018) colombopage.com



Tunisia

Within the framework of the prerogatives conferred on it by the telecommunications code, the National Telecommunications Authority carries out measurements of the quality of service (QoS) 2G / 3G periodically and with the aim of to verify the compliance of public telecommunications network operators with their commitments in terms of quality of service, as prescribed in their specifications. These reports summarize the results of the 21st and 22nd campaigns of the quality of service evaluation measures of the three 2G / 3G mobile networks for the year 2017, which were carried out successively in the 10

delegations of the governorates of Tozeur and Kebili and in the 21 delegations of the governorates of Gabes and Mahdia.

(January 8, 2018) intt.tn

The government has been granted two loans, totaling around EUR143 million (USD172 million) from the Africa Development Bank (AfDB), for the implementation of its National Strategic Plan – Digital Tunisia 2020 and to support the development of technical skills. Commenting on the latter, AfDB Group DG for North Africa Mohamed El Azizi commented that the project

would 'help train a highly skilled workforce, thus meeting Tunisia's ambition to strengthen its integration into global value chains with more than 5,000 jobs to be created.' The Digital Tunisia 2020 strategy, meanwhile, looks to narrow the

digital divide, establish e-government services and promote socio-economic development through ICT and encompasses infrastructure deployments as well as assistance for startups in the industry. (January 4, 2018) [telegeography.com](#)



The Telecommunications Regulatory Authority (TRA) has revealed that the number of registered names in the national domain (.ae) has reached more than 210,000 domain names until the end of 2017, achieving the target number of registered names for the year. The final registered figures maintains the leading position on the Arab level in this field, said a statement from the Emirati telecom watchdog TRA. The (.ae) Domain Administration (.aeDA) has been established by TRA as the regulatory body and registry operator for the (.ae) domain name and the Arabic domain. The .aeDA is responsible for the setting and enforcement of all policies with regard to the operation of the .ae, in addition to growing, developing and marketing the (.ae) namespace, accrediting and managing (.ae) registrars, educating the public, delivering and enhancing the (.ae) domain name, facilitating the (.ae) Dispute Resolution Policy, and representing the national domain at international forums. Majed Sultan Al Mesmar, the acting director general, said: "The success of the national domain reflects the excellence and reliability of the domain in the UAE. It is an indicator of the digital infrastructure development level that meets the requirements of all forms of e-presence for companies, institutions and individuals." "The UAE e-presence online is an important indicator of the business sector confidence in the ability and credibility of the national domain among the targeted audience in the country," he stated. Al Mesmar said the national domain enhances the investment environment as it provides an additional option for corporate domain names. "It is complementary to and supportive of TRA's strategy to support the transformation towards smart cities and knowledge based economy, through the promotion and dissemination of e-commerce," he added. Mohammad Al Zarooni, the director for policies and programs department, TRA, said: "We have been able to exceed the target number of registered domain names by the end of 2017, which consists a great incentive for us to proceed with the success." "We would like to assure the provision of all requirements and needs of the customers, individuals and companies, in accordance with the highest standards of quality and safety as well as adopted best practices in this field," he said. "We rely on 22 specialized companies to conduct the registration in the national domain, all of which are characterized by their highest standards of quality, reliability and efficiency in service provision, in order to ensure that customers experience a smooth and fast registration without any complications," he added. (January 10, 2018) [tradeearabia.com](#)

The Telecommunications Regulatory Authority (TRA) has reassured residents that all telecom towers installed in the UAE follow international guidelines and radiation levels are within safe limits. The statement followed complaints filed by residents of Al Furjan community seeking to stop construction of a mobile tower in the residential area. "The UAE telecom

sector is complying with the international guidelines of mobile radiation, through the technical survey that measures mobile radiation levels across the emirates," a TRA spokesperson told Gulf News. The spokesperson said the TRA "regularly measures radiation levels using different chosen base stations across the UAE to ensure compliance to international standards." In 2010, the TRA issued a regulatory policy to ensure that levels of non-ionizing radiation emitted by mobile towers conforms to safety standards set by International Commission for Non-Ionizing Radiation Protection (ICNIRP) and adhered to around the world, added the spokesperson. He further pointed out that in line with the TRA policy, surveys were carried out across the country to ensure that operators were complying with the guidelines, at 50 sites, where towers are set to be built in Abu Dubai, Al Ain, Dubai and the Northern Emirates. "All emissions from the mobile towers had to comply with the general public exposure limits. The survey has covered all emirates, in particular the sites that were chosen in sensitive areas such as near schools, in school playgrounds, near classrooms, hospital grounds and near hospital wards especially children's or maternity wards," he said. A notice informing residents about building a telecom tower in Al Furjan area was first posted in December 2016. "We raised concerns about the tower at that time and when nothing happened after exchange of several emails with the developer until last month when the construction started, we re-approached the developer Nakheel," Nicholas Cox, a resident of Al Furjan told Gulf News. He said that residents are requesting for the relocation of the tower, which is being built close to playgrounds, a nursery and a medical Centre. "The tower is located right next door to houses where the majority of the residents have young children," said Cox. The British expatriate said many residents do not want to live in the area as they think that radiations from the telecom tower pose a risk to their health. Vikas Gupta, an Indian expatriate said that he moved into the area in 2012 and the tower is located 50 meters from his home. "The tower is being built without taking into consideration the residents' concerns. Since there is no owners association in the community, we had no prior information about the tower being built there," he said. Gupta, who has a three year-old son, said he is concerned about the harmful radiation and suggests its relocation to another area in the community away from homes and playgrounds. Meanwhile, M.L from France, said the tower is being built beside her garden. "I have two children aged 4 years and 16 months and I am extremely worried about the radiation. The area where the tower is being built is a trash site and badly maintained," said M.L. Pointing out that mobile signal reception has not been an issue in the area, M.L and other residents said they don't see the need for another tower in the area.

(January 9, 2018) [gulfnews.com](#)

United Arab Emirates

The Telecommunications Regulatory Authority (TRA) has opened the way for the country's telcos to begin deployments in preparation for future 5G mobile networks. The watchdog says it is supporting the rollout of 5G services in three bands by 2020, these being: 1427MHz-1518MHz, 3300MHz-3800MHz and 24.25GHz-27.5GHz. In addition, the TRA says it is also looking at utilizing spectrum in the 40GHz range beyond 2020. On the back of the regulator's announcement, UAE telco Etisalat said it had opened the Middle East region's first pre-commercial 5G networks at selected locations in Abu Dhabi and Dubai using the 3300MHz-3800MHz band. Full commercial 5G services are expected to be introduced in 2020, once global standards have been finalized by the ITU. (January 2, 2018) telegeography.com

The Telecommunications Regulatory Authority, TRA has successfully completed the tests of the Internet Protocol version 6 (IPv6) on the Federal Network (FedNet), as well as conducting all internal assessments and practical tests to ensure the readiness of FedNet in terms of hardware and software requirements. The tests were conducted in cooperation with the UAE accredited service providers; Etisalat and Du. The technical team supervising FedNet, in cooperation with the service providers, conducted technical tests that confirmed the ability of operators to switch to IPv6, which is considered a major achievement in the UAE, and a key requirement in light of the lack of internet resources due to IPv4. Highlighting the importance of this step, Hamad Obaid Al Mansoori, Director-General of TRA and the UAE mGovernment, said, "These efforts are part of TRA vision of providing sustainable internet infrastructure to meet

the growing needs of the smart city transformation process, as well as providing the highest standards of security, reliability and speed of transaction through applications and smart devices. The aim of this step is to confirm the UAE's leadership in smart services and support the UAE's strategies in the field of Internet of Things (IoT) and Artificial Intelligence (AI). We are confident that such efforts will have a positive impact on enhancing the business environment in the UAE to increase its attractiveness and competitiveness." Saeed Belhoul, Director eGovernment Operations in TRA, said, "IPv6 provides greater flexibility in availing internet resources to meet the growing demand, especially in light of the widespread of smart devices of all kinds, both in the work environment or daily life. Collaboration with our private sector partners, specifically Etisalat and du, is an important factor in the success of these efforts to provide very high speeds in all forms of electronic transactions related to all forms of human activities. This is also the first time this type of testing is conducted in cooperation with the operators." The FedNet project is one of the main strategic initiatives of TRA. It provides the necessary infrastructure for the provision of smart government services to all entities and customers in the UAE. It enhances efficiency, capacity, reliability and safety levels, in order to provide common services and solutions to government entities and customers in the UAE. FedNet provides a multi-level protection environment to ensure the infrastructure safety and security, for the aim of enhancing usage rates and data exchange between network cloud operators. (January 2, 2018) zawya.co



REGULATORY ACTIVITIES BEYOND THE SAMENA REGION



Angola

The Angolan Institute of Communications (Instituto Angolano das Comunicacoes, INACOM) formally published the tender specifications for the introduction of a new telecoms operator. As per the document, applications will be permitted from 8 January, ahead of a final February 27 deadline. In November 2017 the new government announced the

imminent launch of a competitive tender to license a new 'Unified Global' operating licensee (mobile, fixed, TV) to challenge established cellcos Unitel and Movitel, and PTO Angola Telecom, which intends to become the third mobile player in 2018. UK mobile giant Vodafone Group is expected to be among the bidders. (January 3, 2018) [telegeography.com](#)



Argentina

The National Entity for Communications (Ente Nacional de Comunicaciones, ENACOM) approved the merger of Telecom Argentina and Cablevision on December 21, 2017. As per the approval, the combined entity is obliged to hand back an 80MHz block of spectrum, as the enlarged telco's frequency holdings will surpass the current 140MHz spectrum limit. The other key regulatory measure will see the merged company ensure the provision of 'commercial conditions' on a par with those available in the Area Metropolitana Buenos Aires (AMBA) in localities with less than 80,000 people, or where competition is only provided by a cooperative or a corporate provider. According to the watchdog, the merger approval will hasten the introduction of quad-play services in the AMBA, Rosario and Cordoba from this month. The Telecom-Cablevision merger was announced

to the Argentine Securities Commission and the Buenos Aires Stock Exchange on June 30, 2017. The key driving force behind the deal is investment firm Grupo Fintech, which currently holds a 40% stake in Cablevision and also owns 100% of Sofora Telecomunicaciones, which in turn holds a 55.6% economic interest in Telecom Argentina. In other M&A news, Argentine conglomerate Sociedad Comercial del Plata has announced the sale of its Metrotel unit to asset manager Blackstone and technology investor Riverwood. The USD190 million divestment was announced in a letter to Argentina's securities regulator, and is subject to approval from ENACOM. The telco presides over a 3,000km fiber-optic network spanning the Federal Capital, Greater Buenos Aires, Cordoba, Rosario, Neuquen and Mendoza. (January 3, 2018) [Boletin Oficial](#)



Australia

The telecoms regulator ACMA has introduced new regulations that will allow road traffic authorities to roll out intelligent transport systems enabling vehicle-to-everything communications. A new radiocommunications intelligent transport systems (ITS) class license will support the use of wireless technologies and devices to enable vehicle-to-vehicle, vehicle-to-person or vehicle-to-infrastructure communications services. The regulations will allow the 5.9-GHz spectrum band to be used for ITS services, the same band being used in major vehicle markets such as the US and EU. "ITS are expected to make roads smarter, safer and cleaner through the use of communications technologies," ACMA acting chair James Cameron said. "The new Class License will facilitate the rollout of the latest transportation

communications technology, putting Australia on par with other nations adopting ITS." In other connected vehicle news, Cisco has announced plans with carmaker Hyundai to support the production of a "hyperconnected car" for Hyundai's premium 2019 vehicle line-up. The two companies have been working since 2016 to develop a vehicle with a new approach to communications by using a software-defined vehicle infrastructure. The new platform will provide over-the-air updates and increased in-vehicle bandwidth by enabling IP and Ethernet services. Using the open, secure platform, the companies are also exploring potential initiatives such as connecting cars to city infrastructure such as lights and parking meters, or integrating the platform into Hyundai data centers to provide access to real-time data. (January 15, 2018) [telecomasia.net](#)



Chile

Industry watchdog the Department of Telecommunications (Subsecretaria de Telecomunicaciones, Subtel) is drafting regulations to allow customers to port between broadband and pay-TV companies more easily, *Diario Financiero* writes. The measures will augment existing number portability rules, which allow subscribers to keep their number when they change their fixed or mobile service provider, as the procedures established by many companies for cancelling broadband or TV services were deemed prohibitive, in some cases requiring customers to go to one of their provider's retail outlets to request the cancellation. The new rules are expected to simplify the process for users to end their contracts and to

create a mechanism for subscribers to more easily switch to another provider. The matter has come to the fore recently due to the growing popularity of bundled packages, including fixed telephony alongside broadband and TV services. Undersecretary of Telecommunications Rodrigo Ramirez was quoted as saying of the restrictive environment for broadband and TV services last year: 'We have realized that the issue of portability is resolved in the mobile world but not in the fixed one. When a person is not satisfied with a service, it is hard for them to change. The exit is quite cumbersome because the companies ask for a series of conditions to the users that discourage the fixed world from living the experience of portability.' (January 9, 2018) telegeography.com



Colombia

The Ministry of Information Technology and Communications (Ministerio de Tecnologías de la Información y las Comunicaciones, MinTIC) confirmed that it has increased wireless spectrum caps in an effort to help the country's cellcos to increase the capacities of their respective networks. As per Decree 2194 of 2017 MinTIC has raised the cap covering the sub-1GHz 'low bands' (689MHz to 960MHz) from 30MHz to 45MHz per operator, while simultaneously increasing the spectrum cap in the

'high bands' (1710MHz to 2690MHz) from 85MHz to 90MHz. The spectrum cap increase is expected to allow the watchdog's planned auction of frequencies in the 700MHz and 1900MHz bands to get back on track. The delayed auction will primarily comprise spectrum in the 703MHz-748MHz and 758MHz-803MHz bands, alongside a supplementary 2x2.5MHz block of 1900MHz spectrum, made up of frequencies in the 1865MHz-1867.5MHz/1945MHz-1947.5MHz bands. (January 4, 2018) telegeography.com



Czech Republic

Following the approval of the first 5G standards by 3GPP, the Czech Republic plans to release the band 700 MHz for mobile networks, reported *mobilmania*.

cz. Until 30 June 2020, the spectrum 470 - 790 MHz will be used for digital terrestrial broadcasting. (January 2, 2018) telecompaper.com



France

French telecoms regulator Arcep is planning to award temporary authorizations for spectrum in the 3400MHz-3800MHz and 26GHz bands for 5G trials. The regulator says that the decision was taken to 'allow all of the players along the 5G value chain to explore use cases and the challenges of this new generation'. These 5G trials will allow the regulator to obtain the first feedback on the use of next generation networks, with any information it receives expected to help fuel the work that Arcep is doing to prepare for the allocation procedure for future 5G licenses. In the 3400MHz-3800MHz band, frequencies are already available in the metropolitan areas of Lyon, Bordeaux, Nantes, Lille, Le Havre, Saint-Etienne, Douai, Montpellier and Grenoble. Interested parties are invited to contact Arcep if they plan on deploying networks in other frequency ranges, or in other geographical locations.

(January 18, 2018) telegeography.com

Telecom regulator Arcep announced it will grant temporary licenses to test 5G in the 3.4GHz to 3.8GHz and 26GHz bands in a bid to assess the potential of new network technology and identify challenges to wide scale deployment. The frequencies, which Arcep identified as prime candidates for 5G, will be available to operators and vertical industries, with the results used to help form the country's 5G strategy. Arcep said one of its main objectives was to assess how the technology can be built to satisfy the needs of a range of industrial and IoT use cases, rather than just identifying the technical challenges of rollout. Licenses for the 3.4GHz to 3.8GHz bands will be available in selected metropolitan areas including Lyon, Bordeaux, Nantes, Lille, Le Havre, Saint-Etienne, Douai, Montpellier and Grenoble. Other bands or locations are available on request. "5G is often touted as the generation that will be able to satisfy the connectivity needs of a wide variety of uses, from the public internet to critical industrial

internet communications, by way of the ambient communications of a ubiquitous Internet of Things," Arcep said in a statement. "Conducting 5G pilots should help deepen a general understanding of the systems for cohabitation between players, and test out business models." "5G will probably constitute an amalgamation of different innovations (active antenna, use of very high frequencies, multiplication of small cells...) that could significantly alter the

way a mobile network is deployed. Arcep wants to work in tandem with the sector to get a jump on the potential effects of these innovations." In addition to the trials, Arcep is preparing its plan for the allocation of 5G licenses and a government consultation is also underway. The move comes shortly after a deal with operators to secure €3 billion in investments to expand 4G across France, as the regulator steps-up its bid to improve connectivity in the country.

(January 17, 2018) mobileworldlive.com



Guyana

The country has established its new independent regulatory body for telecoms, the Guyana Telecommunications Agency, Minister of Public Telecommunications Catherine Hughes has confirmed, although the body will not become operational for some time. The creation of the new agency forms the first of two phases of the implementation of the Telecommunication Act 2016. 'The objective of establishing the agency now is to give time to put in place certain administrative arrangements that are necessary for the agency to function effectively when the entire Act is brought into force,' the minister explained, adding that board members will be elected shortly to manage the agency. The new body will absorb the existing supervisory body for spectrum, the National Frequency Management Unit (NFMU), and will be responsible for licensing and spectrum policy. Regarding liberalization – the main objective of the Telecommunication Act 2016 – Minister Hughes commented that the government

is 'making good progress examining the proposals and the measures for liberalization ... we want to ensure Guyanese get the best deal.' The ministry is attempting to negotiate an end to the monopolies of incumbent Guyana Telephone and Telegraph (GTT), which claims that its exclusive rights to provide international voice and data services are valid until 2030. Demerara Waves writes that the negotiations have been complicated further by an outstanding tax claim for USD44 million from the Guyana Revenue Authority (GRA). GTT claims that if it is required to pay the fee, the government must reimburse the company to ensure that it receives a return on investment of no less than 15% per year under the terms of a 1991 agreement for the part privatization of the company. The validity of the decades-old agreement has been called into question in recent years, as GTT had failed to adhere to its side of the same agreement and its financial reporting made it unclear whether it was indeed receiving its guaranteed 15% return.

(January 23, 2018) telegeography.com



Hungary

Cableco UPC Hungary has been issued with a HUF121 million (USD478,000) fine by telecoms watchdog NMHH for launching triple-play services in the town of Cegled around two years before notifying the regulator, Broadband TV News reported. NMHH claimed that the services in Cegled – officially

registered in September 2017 – had previously been operated without ensuring 'that the network was technically compliant and its deployment legally sufficient'. NMHH slapped UPC with a smaller (HUF30 million) fine for a similar offence in April 2017. UPC may appeal the latest decision.

(January 15, 2018) telegeography.com



India

The Telecom Commission (TC) – the highest decision-making body at the Ministry of Communications – has reportedly endorsed the regulator's proposals to modify spectrum holding caps, the Economic Times writes, citing a senior official. The Telecom Regulatory Authority of India (TRAI) had made recommendations in November last year to alter the spectrum holding allowances, which currently limit providers to 50% of the allocated spectrum in a particular band per circle, and up to 25% of spectrum across all bands per circle. Under the TRAI's proposals, operators would instead be permitted to claim up to 35% of the allocated frequencies within each circle, and up to 50% on combined sub-1GHz frequencies

(i.e. the 700MHz, 800MHz and 900MHz bands), with no limit on per-band holdings for the higher frequency ranges. In addition, the TC has endorsed plans to provide cellcos with further relief in the form of a reduction to the interest rate on penalties and outstanding dues from 14% to 12%, as well as an increase to the tenure for spectrum purchased at auction from twelve years to 16. Having received the TC's approval, the proposals must now be approved by cabinet before coming into force. On the other side of the coin, however, industry lobby group the Tower and Infrastructure Providers Association (TAIPA) has warned that the exclusion of telecom towers from certain tax relief measures under the Goods and

Services Tax (GST) regime could lead to a nearly 10% increase in costs for cellcos. 'The telecom towers are the backbone of the telecom industry and any denial of this credit would substantially increase the cost of providing this service to the common man,' TAIPA's director general Tilak Raj Dua was quoted as saying. The official claimed that the exclusion would add a tax burden of between INR100,000 and INR150,000 (USD1,572 to USD2,359) to the deployment of each tower. (January 10, 2018) telegeography.com

The telecoms regulator TRAI opened a public consultation into a four-year plan designed to propel the country into being a front-runner in the fourth industrial revolution. The draft document outlines a wide range of measures to increase the availability of connectivity and improve wireless and wired broadband speeds across the country, in addition to attracting \$100 billion in investment into the communications sector. National Telecom Policy – 2018 is set to be the country's first major statement on its targets and plan for the industry in six years. The version drafted by TRAI covers

changes to regulatory frameworks, plans to expand connectivity into rural areas, quality assurance measures, business processes guidelines and rules to stimulate adoption and development of next generation technology. TRAI said the policy was designed to "spur the socioeconomic development" and would: "Provide reliable and secured connectivity with assured quality of service, facilitate development of infrastructure and services for new technologies including 5G and IoT, encourage innovation and manufacturing, and develop a large pool of digitally skilled man-power." Its plan includes further urbanization of areas into "world class cities", with the eventual aim of assuming "the leadership role in the world economy". TRAI and the government aim to achieve the vision of India becoming the "front runner of the fourth industrial revolution" by 2022. The document was put together at the request of the Department of Technologies and follows discussions with a range of stakeholders including operators, infrastructure vendors, industry associations and consultancy companies. The consultation closes on January 19. (January 3, 2018) mobileworldlive.com



Italy

The Economic Development Minister has renewed calls for the country's incumbent operator Telecom Italia (TIM) to spin off its network operations. Carlo Calenda is quoted by Bloomberg as saying: 'my opinion is very clear: I think that we should have two legal entities – separated – [in] the market. I think that they are considering this.' The authorities are keen to see the retail-wholesale split to protect network assets which are considered strategic after French firm Vivendi became TIM's majority shareholder with a 24% stake. Calenda also said that a fine that TIM may have to pay could be reduced if the company 'accepts all the demands' made of it. TIM and Vivendi are facing a penalty equivalent to 1% of annual turnover for failing to notify Italian authorities that Vivendi had assumed effective control at the telco. (January 9, 2018) telegeography.com

The final tender for the deployment of ultra-broadband networks in so-called 'white areas' of Italy, which currently have little or no broadband infrastructure, is expected to be published later this month, a report from CorCom suggests. The final tender of three planned by the Italian government will cover the regions of Calabria, Puglia and Sardinia. Two previous tenders covering all other Italian regions were both won by Open Fiber, a wholesale network operator set up by utility group Enel in 2016. It was awarded the first phase of contracts – worth EUR1.4 million and covering Abruzzo & Molise, Emilia-Romagna, Lombardy, Tuscany and Veneto – in January 2017, then went on to win the EUR1.2 million second phase tender for eleven regions plus the Province of Trento later that year. The bidding process is being overseen by the government agency Infratel. (January 4, 2018) telegeography.com



Kenya

The Communications Authority of Kenya (CA) has fined three mobile operators a total of KES311 million (USD3.0 million) for failing to meet quality of service (QoS) standards for the 2015/2016 financial year. According to the regulator's report, Safaricom, Airtel and Telkom Kenya missed the 80% minimum threshold set for compliance with several QoS parameters for the fourth consecutive year. Market leader Safaricom scored 62.5%, while Airtel and Telkom Kenya each achieved 75%. The score averages 70%, which is an improvement from the 62.5% achieved in the preceding year. The CA say it has issued warning notices to the trio for non-compliance and also fined

them a sum equivalent to 0.15% of their individual financial returns for the period prior to 30 June 2017. The regulator added that a new QoS framework has been developed in collaboration with stakeholders, as part of efforts to continually improve the assessment of compliance by the operators. The new framework will see the CA assess both data and voice services and increase its sampling rates countrywide. The CA has also initiated measures to 'enhance its capacity to ensure that it is able to effectively respond to emerging technologies and changing consumer service preferences'.

(January 12, 2018) telegeography.com

The Communications Authority of Kenya (CA) is finalizing a revised report on competition in the country's telecoms sector, following consultations with industry stakeholders. Business Daily writes that the study will not lead to the breakup of Safaricom, the country's largest mobile operator by subscribers, as had been previously recommended by an earlier report. The draft, which was commissioned by the CA to examine competition in the sector, reportedly suggested the separation of Safaricom's core

telecoms operations from its mobile financial service M-PESA, as well as the imposition of retail price controls and infrastructure sharing, in order to level the playing field. Additional changes to the initial document reportedly include a reduction in the number of counties where operators would be required to provide national roaming (and where Safaricom would be required to share its towers) from 14 to seven. The revised report is expected to be released by the regulator by the end of this month. (January 5, 2018) telegeography.com



Kosovo

The telecoms watchdog the Regulatory Authority for Post and Electronic Communications (Autoriteti Rregullator i Komunikimeve Elektronike dhe Postare, ARKEP) has issued a decision to adopt new legislation – dubbed the 'Regulation on Annual Payments for Oversight and the Right to Use Radio Frequencies' – determining annual spectrum fees payable by operators. The methodologies for determining fees are based on the service provided. For cellular providers, the regulator charges on a per 1×1kHz

basis, with prices varying depending on the location of the allocation. ARKEP has set a fee of EUR14.00 (USD17.1) for spectrum in the 694MHz-960MHz range, EUR10.675 for 1710MHz-1900MHz airwaves and EUR7.00 for frequencies above the 1900MHz band. Calculations for fixed wireless access (FWA) and broadband fixed wireless access (BFWA) takes into consideration the frequency band, the band width of the allocation (on a 1×1MHz basis), and the size of the population covered by the concession. (January 23, 2018) telegeography.com



Kyrgyzstan

The telecoms regulator, National Communications Agency confirms on its website that state-owned mobile operator MegaCom (registered as Alfa Telecom) was the winner of a license tender for the 1800MHz frequency band conducted in December. MegaCom beat rival Sky Mobile (Beeline) – the only other company to enter a valid bid – and has been

awarded a 2×10MHz concession, augmenting its existing active spectrum in the 1800MHz band which it uses for 2G/4G services, TeleGeography notes. The regulator disclosed that MegaCom's winning bid for the 1800MHz license was KGS431.03 million (USD6.21 million), more than double the starting price in the auction of KGS205.25 million. (January 21, 2018) telegeography.com



Malawi

The Malawi Communications Regulatory Authority (MACRA) has informed the country's mobile phone users that any unregistered SIM cards will be disconnected from April 1. Local news source Malawi24 cites a statement from the regulator as saying that wireless customers are required to register their personal details with their service provider by March 31, following which any unregistered

SIMs will be cut off. Malawi launched a mandatory SIM identification campaign in June 2017, in order to prevent the use of mobile phones for criminal purposes. The move follows the introduction of the Communications Act No. 34 of 2016, which outlines the obligations of consumers and service providers concerning the registration of SIM cards. (January 23, 2018) telegeography.com



New Zealand

The Commerce Commission has restarted its study of domestic backhaul services. The process was begun in August 2016 but suspended in February 2017 while the government carried out a review of the Telecommunications Act. With the Telecommunications (New Regulatory Framework) Amendment Bill now before a parliamentary select committee, the Commission says it believes it is an appropriate time to restart the study. Telecommunications Commissioner Stephen Gale

said: 'We see backhaul as critical to ensuring New Zealanders can benefit from effective access to comprehensive broadband services, especially with the rollout of Ultra-fast Fiber Broadband (UFB).' He added: 'The submissions we have already received have helped us to better understand the market. We intend to gather further information on a range of matters raised in submissions. This information will help us decide where to focus the remainder of the study.' (January 19, 2018) telegeography.com



Nicaragua

The Nicaraguan Institute for Telecommunications and Posts (Instituto Nicaraguense de Telecomunicaciones y Correos, Telcor) is committed to overhauling the outdated 1995 General Law of Telecommunications and Postal Services (Law No. 200) this year. The reform will be bankrolled by the Inter-American

Development Bank (IDB), and a consultant is expected to be hired in April to oversee the process. Going forward, the watchdog is also seeking assistance in formulating new mobile tariffs; Nicaraguan mobile prices are currently among the highest in Central America. (January 17, 2018) La Prensa



Nigeria

More than 6.43 million 3G cellphone users must migrate to the 4G network by the end of the year, when the 3G licenses are set to expire, the National Communications Commission (NCC) said. The 3G licenses expire on Dec. 31, meaning that the service will legally terminate next year, commission spokesperson Weng Po-tsung said. Four telecom firms offer 3G service – Chunghwa Telecom, Taiwan Mobile, Far EasTone Telecommunications and Taiwan Star – and there are about 22 million 4G users, the commission said. Asia Pacific Telecom terminated its 3G service last year. Until December 31, telecoms can apply to offer 4G service on the frequencies that are currently used to provide 3G service to ensure a smooth transition, Weng said. Frequencies assigned for 3G are in the 2,100 megahertz (MHz) band, he said. Telecoms can offer both 3G and 4G services using the same frequency band, he added. Users of the 3G service might also apply to switch to 4G contracts throughout the year, Weng said. Users can apply to switch contracts in person, online or over the telephone, provided that two valid IDs are presented

to their telecom carrier, he said. Migration from 3G to 4G is expected to be smoother than the termination of 2G services last year, the commission said. "Chunghwa Telecom, Taiwan Mobile, Far EasTone and Taiwan Star last year all retained ownership of their respective frequency blocks in the 2,100MHz band during the third frequency auction for 4G service," Weng said. "They can use part of the 4G frequencies to serve their 3G users, depending on their demands for voice communications and their numbers of 3G users," he said. The four telecoms are to still offer voice communication through 3G networks with the use of circuit-switched fallback technology, in which the voice and messaging services are delivered to 4G devices through the use of the global system for mobile communications or another circuit-switched network, Weng said. These companies are likely to keep 3G technologies for some time, he said. However, users of 3G might need to change to 4G SIM cards if they want to continue using their 3G cellphones after the telecoms' licenses expire, he said. (January 8, 2018) taipeitimes.com



Norway

The telecoms regulator the National Communications Authority (Nkom) has unveiled a series of proposals relating to the regulation of the country's broadband markets. In outlining its plans, the watchdog said it had analyzed three markets, namely: wholesale local access provided at a fixed location (Market 3a); wholesale central access provided at a fixed location for mass-market products (Market 3b); and wholesale high-quality access provided at a fixed location (Market 4). With regards to Markets 3a and 3b, the Nkom said it had concluded that competition conditions are not significantly dissimilar in different parts of the country, and as such it will continue to consider both segments on a national basis. Meanwhile, based on its analysis of Markets 3a and 3b, the regulator has confirmed that it believes fixed line incumbent Telenor Norge still holds significant market power (SMP) and as such it will continue to be subject to regulation. In line with this, in the new regulatory period – which the Nkom noted would apply from 'autumn 2018' – Telenor will be required to provide access to its copper and fiber infrastructure. The regulator has said, however, that it did not find any basis for imposing a requirement that Telenor provide access to its HFC network. Access to both the telco's copper and fiber access networks is to be

granted on non-discriminatory and transparent terms, while Telenor will be subject to price regulation in the form of price caps for traditional access products offered via its copper infrastructure. With regards to fiber, meanwhile, Telenor will continue to be subject to a 'margin squeeze test' to ensure that wholesale customers taking the telco's Virtual Unbundled Local Access (VULA) service can offer similar retail fiber services as Telenor at a positive margin. Meanwhile, in what the Nkom termed an 'important part of the assessment', it has now determined how Telenor's copper network will be upgraded, after the Broadband Forum (Bredbandforum) – the working group tasked with tackling the matter – had been unable to reach a voluntary solution. The Nkom has decided that alternative operators will be permitted to upgrade the copper infrastructure owned by Telenor, though the latter will retain the first right of refusal to carry out upgrades in any given area. Where any upgrade is undertaken, the company undertaking it must ensure that the network will be able to offer wholesale connectivity, which will be subject to wholesale margin regulation, non-discrimination, transparency and notification obligations. Rounding out its proposals, the Nkom has said it intends to deregulate Market 4, noting that while the barriers to entry in the

market are still high for those seeking to offer such services on a nationwide basis, it found that the retail market for wholesale high-quality access services was 'characterized by effective competition between several providers'. A consultation on the Nkom's proposals has been launched, with submissions being accepted until March 12, 2018, following which the regulator will review any comments and submit updated draft decisions to the EFTA Surveillance Authority (ESA) for assessment. Once that body has given its feedback, the watchdog expects to issue a final decision in 3Q18. (January 17, 2018) [telegeography.com](#)

The telecoms regulator the National Communications Authority (Nkom) has recommended to the Ministry of Transport and Communications (Samferdselsdepartementet ar, MoTC) that unused spectrum in the 2100MHz band be made available for use in commercial public mobile networks with a view to boosting mobile broadband capacity. In a press release regarding the matter, the Nkom noted that its recommendation follows a public consultation on the use of the 1920MHz-1980MHz/2110MHz-2170MHz frequencies. Having received 14 submissions from interested parties to this study, and following a comprehensive assessment, the Nkom has recommended that available resources in the 2100MHz band should not be dedicated to the improvement of indoor mobile coverage, but instead should be assigned generally under technology and service-neutral licenses. In its explanatory memorandum Nkom emphasized that its recommended solution would allow for the most efficient use of frequency resources, while noting that it

viewed the 2100MHz band as having the potential to offer important capacity for cellcos, while stressing that there are already alternative solutions available to improve mobile coverage indoors. Looking ahead, the Nkom has said it will provide further information regarding the allocation process for new 2100MHz spectrum once the MoTC has made a final decision on the use of such frequencies.

(January 15, 2018) [telegeography.com](#)

Norwegian telecoms regulator the National Communications Authority (Nkom) has announced the launch of a new EU-funded support scheme. In a press release the watchdog revealed that under the 'WiFi4EU' scheme, local municipalities can apply for funds to offer free Wi-Fi zones to residents and visitors in central areas and public buildings. It goes on to say that the scheme will be managed by the Nkom. In total, the budget for WiFi4EU has been set at EUR120 million (USD144 million) for the period to 2019, with the EC noting that it expects the scheme to be 'disbursed in a geographically balanced manner, so that high speed connections can benefit both residents and visitors of thousands of local communities across the EU – at least 6,000 to 8,000 local communities by 2020'. The first call for projects that are seeking to gain funding from the WiFi4EU scheme is expected to get underway in February 2018, and will reportedly be selected on a first-come, first-serve basis. Project promoters applying to the scheme should propose to equip areas where a free public or a private Wi-Fi hotspot offering similar characteristics does not already exist.

(January 12, 2018) [telegeography.com](#)



Paraguay

The National Telecommunications Council (Consejo Nacional de Telecomunicaciones, Conatel) has announced that its 700MHz spectrum auction – which took place on 4 January – generated total bids of USD84.540 million. Tigo Paraguay scooped the largest spectrum allocation, offering USD36.325 million, while Claro and Personal submitted bids of USD24.215 million and USD24.000 million, respectively. State-backed market minnow Vox opted to sit out the bidding process altogether. The spectrum sale saw seven 2x5MHz paired frequency blocks auctioned with a reserve price of USD12

million each. The spectrum blocks were divided as follows:

Block C: 713MHz-718MHz/768MHz-773MHz;
Block D: 718MHz-723MHz/773MHz-778MHz;
Block E: 723MHz-728MHz/778MHz-783MHz;
Block F: 728MHz-733MHz/783MHz-788MHz;
Block G: 733MHz-738MHz/788MHz-793MHz;
Block H: 738MHz-743MHz/793MHz-798MHz; and
Block I: 743MHz-748MHz/798MHz-803MHz.

The precise spectrum allocations awarded to the bidders have not yet been made public.

(January 8, 2018) [telegeography.com](#)



Peru

A total of 388,293 Peruvian mobile users ported their phone number in November to a new operator, equal to 4.9 percent more than the previous month, according to the latest figures released by telecom regulator Osipitel. This continues the growth trend started in July, since which portings have averaged over 250,000 per month. The operators Entel and Claro (America Movil) again led the monthly portability rankings, adding 142,812 and 139,866 lines

respectively but shedding 83,928 and 97,190 lines over the same period. Movistar (Telefonica) registered a large deficit, adding 84,072 users but losing 153,541, while Bitel was also a net loser, adding 21,538 but shedding 53,046. The watchdog said a total of 5.64 million mobile lines have been ported since MNP was activated in July 2014, meaning around 14 percent of the total mobile lines currently in service (nearly 38 million) have been ported using the system.

(December 28, 2017) [telecompaper.com](#)



Philippines

The Department of Information and Communications Technology (DICT) in the Philippines has published its guidelines to accommodate the entry of a third major telecoms operator in the local market. Under the agency's proposals, companies wishing to participate must: hold a valid congressional franchise; not be a subsidiary, affiliate, or have any corporate or financial interest with incumbent operators PLDT Inc. and Globe Telecom as of December 31, 2017; and must have a written and binding commitment from a foreign venture company. Local press reports cite DICT Memorandum Order No. 1, 'the applicant with the highest committed investment for the first five years shall be selected'. Going forward, the

industry regulator the National Telecommunications Commission (NTC) will circulate a Memorandum Circular outlining the main terms of reference for the selection of the third operator and assignment of radio frequencies on February 19. Rio is also quoted as saying that along with China Telecom, KDDI Corp (Japan), LG Uplus (South Korea) and an as yet unnamed Taiwanese company have submitted expressions of interest in investing in the country, where they would need to partner with a local firm to become the third player. According to the DICT, the successful newcomer will need to invest up to PHP400 billion (USD7.95 billion) in its first five years to establish itself. (January 16, 2018) telegeography.com



Poland

The Office of Electronic Communications (UKE) has initiated a second stage of consultation regarding the future of a 2x5MHz package of spectrum in the 450MHz band, which it says would be suitable for 2G, 3G or 4G services. The spectrum, originally held by Orange Polska but returned early last year, has previously been linked with three potential bidders: Orange, T-Mobile Poland and P4/Play. Orange had been using the frequencies for CDMA fixed-wireless services, but refused to pay the government's renewal fee of PLN115.5 million (USD33.5 million), opting instead to close down its CDMA network which had been used mainly by customers in rural areas and by inshore fishing vessels. UKE says that the spectrum (452.5MHz-457.5MHz paired with 462.5MHz-467.5MHz) will be valid until May 2033, though a 2x0.5MHz portion (457.0MHz-457.5MHz/467.0MHz-467.5MHz) will not be available immediately in 14 regions, with the full 2x5MHz allocation only being freed nationwide from February 2027. The selection

of the winning bidder will be based on three criteria: bid amount, financial credibility and its effect on competition. (January 17, 2018) telegeography.com

Ministry of Digital Affairs (Ministerstwo Cyfryzacji) has opened a public consultation into its newly-published '5G Strategy for Poland' document. The plan calls for a commercial 5G mobile network to be live in at least one Polish city by the end of 2020 and all cities and transport routes to be covered by 2025. Authorities are looking to allocate spectrum in the 700MHz band in 2020, with frequencies in the 3400MHz-3800MHz and 26GHz ranges to be distributed in 2021. The Ministry is also aiming to make it simpler for operators to gain permission for building network infrastructure such as masts, and ease some of the restrictions on electromagnetic emissions to allow for greater network optimization. Comments on the document are being accepted until February 11. (January 8, 2018) telegeography.com



Romania

The National Authority for Management and Regulation in Communications (ANCOM) has launched a public consultation regarding its proposal to drop mobile termination rates (MTRs) from EUR0.0096 (USD0.0115) per minute to EUR0.0084 per minute. The regulator's proposal would come into effect from May 1, 2018 and would be applied until ANCOM completes the new pure LRIC costing model. President of ANCOM, Sorin Grindeanu also

stated that Romania's telecoms watchdog has also consulted with the EC over the issue, primarily due to the fact that the current costing model does not include 4G LTE technology. Until a new costing model is implemented by ANCOM, it wishes to use the proposed drop in MTRs from May as an interim measure. A public consultation has been opened with ANCOM stating all comments and suggestions should be made by January 31.

(January 2, 2018) telegeography.com



Somalia

The Somali government has announced that it will establish the nation's first independent regulatory agency for telecommunications, dubbed the National Communications Authority (NCA), as the state moves to implement the provisions of the landmark Communications Act, which passed into law in October last year. Xinhua Net cites Minister for Post and Telecom Abdi Ashur Assan as saying that his

first priority is to establish a regulatory authority that is credible, effective and operationally independent. Addressing industry stakeholders, consultancy firms and the Implementation Task Team that will provide the technical assistance for the establishment of the NCA at a three-day forum in Mogadishu, the minister told the officials: 'You have an exceptional opportunity to create a new institution not restricted

by [the] organizational challenges [of] our existing institutions. You will be responsible for the success or the failure of this institution, so I would urge you

to do your utmost as individuals and as a team to ensure the establishment of a credible and effective institution.' (January 25, 2018) telegeography.com



South Korea

South Korea's mobile network operators (MNOs) have been fined a total of KRW50.5 billion (USD47 million) by the Korea Communications Commission (KCC) for handing out illegal subsidies to new subscribers. Although a ban on providing mobile phone subsidies exceeding a cap set by the KCC came to an end on 30 September 2017, according to the Korea Herald these latest fines cover the period between January and August last year. The market's leading cellco by subscribers, SK Telecom (SKT) has been fined the greatest amount – KRW21.3 billion – while rivals KT Corp and LG Uplus were handed penalties of KRW12.5 billion and KRW16.7 billion, respectively. In addition to the fines levied against the cellcos, Samsung Electronics' sales division, which operates around 300 Samsung Digital Plaza shops across the country, has been charged KRW7.5 million for subsidy-related violations, while 171 other retailers that distribute mobile devices were issued a total of KRW10.9 million in fines. Commenting on the matter, KCC Chairman Lee hyo-sung was cited as saying: 'We hope the corrective measures help the telecom firms to shift their focus from wasteful marketing competition to improving service quality.' (January 25, 2018) telegeography.com

South Korea will begin 5G spectrum auctions for local mobile carriers in June next year, the government has announced. The Ministry of Science and ICT said 3.5GHz and 28GHz spectrum will be auctioned, one year earlier than previously announced. It expects 5G to be commercialized in March of 2019, and deployed nationwide by 2022. Local telcos SK Telecom, KT, and LG Uplus will likely accelerate deployment following the auction. To save capital expenditure for telcos, the government will have them share investments for certain equipments. Separately, the government plans to deploy a wireless backhaul network spectrum for use in subways, which it is claimed will increase Wi-Fi speed by one hundred times. It is currently testing 23GHz spectrum and will pilot it next year in April. In September, SK Telecom successfully reduced latency between handset and base station to 2 milliseconds on 4G LTE network, and said it was close to achieving under 1 milliseconds for 5G. SK Telecom and KT plan to show off their 5G network at the 2018 Pyeongchang Winter Games to be held in South Korea. KT is preparing to offer 360-degree viewing for the sports events. LG Uplus and Huawei finished conducting field trials for 5G in the Gangnam District, Seoul. (January 1, 2018) zdnet.com



Taiwan

The telecoms regulator National Communications Commission (NCC) has reportedly revealed that around 6.4 million 3G subscribers will need to migrate to a 4G-compatible tariff by the end of this year. The NCC has confirmed that 3G licenses held by the nation's mobile network operators (MNOs) will expire on 31 December, with regulatory spokesperson Weng Po-tsung cited as saying that up until that date cellcos can apply to the NCC for permission to begin offering LTE-based services using the spectrum in the 2100MHz band which is currently used for 3G services. Weng added: 'Chunghwa Telecom, Taiwan Mobile, Far EasTone and Taiwan Star last year all retained ownership of their respective frequency blocks in the 2100MHz band during the third frequency auction for

4G service ... They can use part of the 4G frequencies to serve their 3G users, depending on their demands for voice communications and their numbers of 3G users.' Meanwhile, it was noted that 3G technology will remain in use for some time, despite the license expirations; all of the nation's MNOs are expected to continue relying on circuit-switched fallback (CSFB) technology to provide 4G subscribers with voice connectivity in the short term. Currently, four of Taiwan's five mobile operators offer 3G services, namely Chunghwa Telecom, Taiwan Mobile, Far EasTone and Taiwan Star, with Asia Pacific Telecom reported to have ceased providing access via its 1xEV-DO network at the end of last year.

(January 9, 2018) The Taipei Times



Tanzania

An investigation by the government of Tanzania has alleged that Bharti Airtel's 60% ownership of the country's second largest mobile operator by subscribers is illegal. According to a statement from President John Magufuli's office, which quotes Finance Minister Philip Mpango, the initial privatization of Tanzania Telecommunication Company Limited (TTCL) 'broke the law, regulations and procedure'. The investigation concluded that the cellco was originally transferred from state-owned

TTCL illegally and the government will start talks to retake what it says is its rightful share of the business. Last month Bharti Airtel said its 2010 acquisition of the 60% stake in the company from Zain Group was in full compliance and followed all approvals from the government, which owns the remaining 40%. The Indian firm added that Tanzania's complaint relates to the initial privatization of the company five years prior to when Airtel took control.

(January 12, 2018) Bloomberg



Thailand

The National Broadcasting & Telecommunications Commission (NBTC) will propose to its board that it consider suspending a planned auction of 900MHz spectrum and auction nine 1800MHz licenses, instead of the originally planned three concessions in the band. The proposed changes will be tabled for consideration to the NBTC subcommittee on telecoms affairs on January 25, and to the NBTC board on January 31. NBTC secretary general Takorn Tantasith said that the decision to suspend

the 900MHz spectrum auction reflected concerns over a possible interference in signals between the blocks to be auctioned and the 900MHz band that the NRTC planned to use for high-speed train services. Regarding the 1800MHz auction, Takorn said that the 45MHz of available spectrum in the band will be divided into nine blocks of 5MHz, at a price of THB12.485 billion (USD390 million) each. The original starting price for the three 15MHz blocks of 1800MHz spectrum was THB37.457 billion. (January 22, 2018) *The Nation*



Uganda

MTN Uganda could face objections from rivals when it comes to renew its license in October. A report from Kampala-based newspaper *The Independent* says that a group of operators under the umbrella of the Wireless Applications and Service Providers Association of Uganda (WASPA-U) have accused wireless market leader MTN of violations of

regulations. They have filed a petition which raises a number of charges against MTN, ranging from the under-declaring of revenues, to unethical business practices, anti-competitive behavior, the illegal takeover of their businesses, violation of laws, and withholding of payments to local companies. MTN has so far not responded to the allegations. (January 15, 2018) *telegeography.com*



Ukraine

The National Commission for Communications and Informatization Regulation (NCCR) has scheduled the opening of envelopes with bids for 4G licenses for the 2,600 MHz frequency range on January 26, 2018. Based on the results of consideration of applications for participation in the tender from mobile communications operators and payment of respective tender deposits by the operators, the NCCR found that all the bidders met the relevant conditions and recognized bidders for each lot with the approval of the respective list of participants. NCCR has scheduled the date of disclosure of the third envelopes from the tender participants with the announcement of price offers for each lot at 10.00 on January 26, 2018. On the same day, the date of the tender by voice will be determined on the above-mentioned licenses. At the meeting of the tender commission, persons authorized by the operators have the right to attend the tender. In addition, on January 26 is the deadline for accepting applications from operators for participation in the 4G tender in the 1,800 MHz band range: until 16.45 on January 26, 2018. (January 24, 2018) *en.interfax.com.ua*

Country's three largest mobile operators, Kyivstar, Vodafone Ukraine and Lifecell, have submitted their applications for the upcoming competitive tender for 4G LTE licenses in the 2600MHz frequency range. Vodafone Ukraine (owned by Mobile TeleSystems [MTS] of Russia) and Lifecell (a subsidiary of Turkey's Turkcell) are both bidding for the entire seven lots (2x40MHz) of 2600MHz spectrum up for grabs, including six blocks of 2x5MHz and a non-contiguous 2x10MHz portion. Kyivstar, part of the Russian-backed VEON group, is only placing bids for the six 2x5MHz lots (2x30MHz in total). The National Commission for State Regulation of Communications and Informatization (NCCIR) is today (23 January 2018) scheduled to formally approve the bids and confirm the date for the 2600MHz license auction to take place. In addition, the deadline for accepting applications from operators for participation in Ukraine's 1800MHz 4G license tender is set for January 26, 2018.

(January 23, 2018) *Interfax-Ukraine*



United Kingdom

The telecoms regulator Ofcom has issued an update on the timetable for its forthcoming auction of spectrum in the 2.3GHz and 3.4GHz bands, saying it believes it is 'in the public interest for the auction to take place as soon as possible in light of the significant and strong demand for access to the spectrum'. While Ofcom had intended to conduct the sale process in autumn 2017, legal challenges to its plans by local mobile network operators (MNOs) Three UK and EE necessitated a delay. Last month the High Court ruled in the watchdog's favor

with regard to its auction plans, but while EE swiftly confirmed it would not appeal this decision, Three has opted to take the matter to the Court of Appeal. In its update Ofcom noted that it expects that case to be heard on February 13-14, 2018, but keen to move forward with the auction as quickly as its can once the Court's judgement has been given, it has decided to proceed with publishing the auction regulations for the forthcoming sale process on January 24. Setting out the timetable beyond this, Ofcom has confirmed that it will release guidance for potential bidders on

how to take part in the spectrum sale on January 24, while the auction regulations will then come into force on January 31. Once that happens, the regulator intends to confirm that date from which it will accept applications, while it has said it anticipates that the deadline for these will likely be around seven days after the regulations come into force. Further, Ofcom will start taking any necessary steps to decide whether to qualify applicants to participate in the auction immediately after application day, though it will stop short of formally qualifying bidders until after the Court of Appeal's decision is announced, and all parties know whether its decision to impose an overall spectrum cap at 340MHz is upheld. Claiming that the aforementioned steps are all ones that would need to be taken irrespective of whether the Court of Appeals upholds its decision, Ofcom has said that if it does need to amend its regulations in the light of the ruling, it will do so 'with utmost expedition to minimize further delay'. Once the judgment of the Court is known, any company that has applied to take part will reportedly have a period to indicate whether they wish to withdraw from the award process and be refunded their initial deposit prior to the 'last day for withdrawal'. (January 18, 2018) [telegeography.com](#)

Telecom regulator Ofcom brushed-off pending litigation from 3 UK and laid out a timeline for the start of the auction process for 4G- and 5G-ready spectrum. The regulator said 3's actions were continuing

to delay benefits for consumers and businesses, while confirming it would begin preliminary auction proceedings ahead of a Court of Appeal hearing. Ofcom will publish its regulations for the auction of spectrum in the 2.3GHz and 3.4GHz bands on 24 January, with details on when applications can be made expected a week later. It will then begin qualifying bidders as applications are received, but added it would not formally accept companies until after the court's decision. The Court of Appeal is set to hear 3's case on 13 and 14 February, after the operator lost its original litigation against Ofcom's proposals for the allocation of spectrum in December 2017. Ofcom had intended to hold the auction in autumn 2017, but rules on operator spectrum caps provoked the ire of 3 and EE, which both took cases to the high court. 3 claimed the limits proposed were too high and favored the larger operators, while EE argued there should be no cap at all. All challenges were rejected and EE subsequently dropped its objection. "The litigation by Three is continuing to delay access to the spectrum," Ofcom stated: "Ofcom considers that it is in the public interest for the auction to take place as soon as possible, in light of the significant and immediate demand for access to the spectrum, and the immediate and direct benefits to consumers of faster, higher quality mobile data services that can be offered using the spectrum." It added should the appeal be accepted, it would change regulations quickly to minimize further delay.

(January 17, 2018) [mobileworldlive.com](#)



United States

The Federal Communications Commission (FCC) has confirmed plans to accelerate the frequency reassignment timetable relating to last year's 600MHz Broadcast Television Spectrum Incentive Auction, in an effort to assist with the recovery of Hurricane Maria-stricken TV broadcasters located on Puerto Rico and the US Virgin Islands. As a direct result, the time-frame within which 600MHz spectrum winners are able to utilize the airwaves has also been hastened. All but two of the affected stations were initially assigned to transition Phase 3 in the FCC's 'Closing and Channel Reassignment Public Notice', which had a phase completion date of June 21, 2019. Now the broadcasters will be obliged to vacate the spectrum as of August 1, 2018. T-Mobile US was said to be one of the key driving forces behind the move, and in a Twitter post, T-Mobile CTO Neville Ray commented: 'The repack of Puerto Rico TV stations has been accelerated, which means we can deploy our 600MHz spectrum much faster than planned, bringing improved broadband LTE coverage to PR!' TeleGeography notes that T-Mobile agreed to pay USD7.99 billion for a total of 1,525 regional licenses in the FCC licensing process, securing an average of 31MHz of 600MHz spectrum nationwide. The cellco switched on its first 600MHz LTE network in Wyoming

in August 2017, and went on to cover 586 US towns and cities by year-end. (January 15, 2018) [telegeography.com](#)

The Federal Communications Commission (FCC) granted a request from T-Mobile US which will speed up the transfer of 600MHz licenses from TV broadcasters to mobile operators in Puerto Rico as the island recovers from Hurricane Maria. TV stations were originally assigned to be part of the FCC's Phase-3 and Phase-10 transitions, which have scheduled completion dates of June 21, 2019 and July 3, 2020 respectively. However, the FCC granted the stations permission to transition to their post-auction channel assignments prior to the start of Phase-1, which allows operation on the new channels as early as September 14. Testing at the new stations is now permitted to begin on July 1. In a Twitter post, T-Mobile CTO Neville Ray called the decision "great news," noting it will allow the operator to deploy its 600MHz spectrum on the island "much faster than planned". FCC chairman Ajit Pai added the decision will allow residents to "access emergency communications and other valuable broadcast content sooner". T-Mobile won 50MHz of 600MHz spectrum across Puerto Rico and an average of around 30MHz nationwide during a recent FCC spectrum auction. Earlier this

month, T-Mobile reported it deployed 600MHz sites in a total of 586 cities between August and December. Ray noted in December the operator plans to bring “thousands” more sites online in 2018. The decision to move quickly in Puerto Rico, however, comes as the island works to recover from Hurricane Maria, which brought widespread devastation in September 2017. The storm wiped out 95 per cent of cell sites

and operators are still trying to recover more than 100 days later. As of January 10, the FCC reported 10 per cent of cell sites on Puerto Rico are still out of service. In a filing, AT&T noted it restored approximately 85 per cent of network elements including fiber transport equipment, and 47 per cent of fiber facilities affected by the storm.

(January 14, 2018) mobileworldlive.com



Zimbabwe

The Postal and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ) says local operators are now able to pay their license fees in instalments to help them cope with the country's ongoing financial crisis. POTRAZ Director General Gift Machengete told that they have a statutory instrument that allows to negotiate with them, to look at their financials and see whether it is true that they cannot pay upfront. We then look at what they can pay and we negotiate, then they can pay in instalments. Of the three active cellcos, only privately-owned Econet Wireless has paid its full license fee, with state-backed firms NetOne and Telecel expected to benefit from the change in legislation. Telecel had previously negotiated an instalment plan with POTRAZ but the government warned the regulator that it had no authority to set up a payment scheme until legislation was amended.

(January 24, 2018) [The NewsDay](http://TheNewsDay)

The government of Zimbabwe is considering a plan to ‘warehouse’ the legacy debt of state-owned fixed line operator TelOne in order to ease its financial situation and make it more attractive to outside partners. TelOne was saddled with a USD360 million debt when it was created following the split of the Postal and Telecommunications Corporation (PTC) in 2000, and it has struggled since then with interest payments. Its total debt stood at USD374 million as of October 2017, according to a report from *The Independent*. Minister of Information and Communication Technology Supa Mandiwanzira says the government is looking to ease the debt burden of a number of parastatal companies to enable them to get back on their feet financially and put them in a position where they can eventually pay off the amount owed in full. He says that TelOne has been the only state-owned firm so far which has demonstrated its ability to redeem its debt in the future. (January 15, 2018) telegeography.com

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